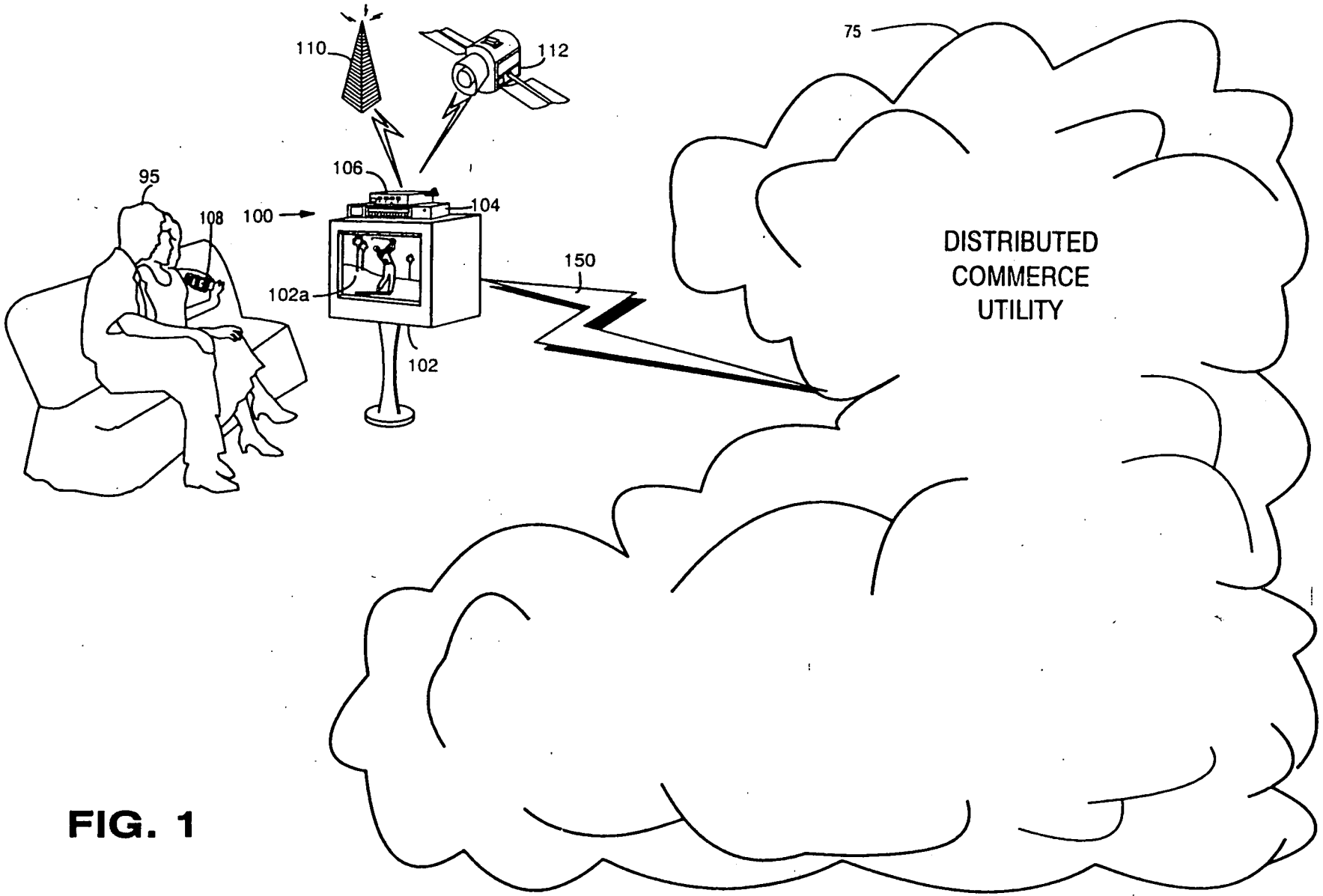

110
112
75
95
106
104
108
100
150
DISTRIBUTED
COMMERCE
UTILITY
102a
102

FIG. 1

DOCKET NO. 50277-2600

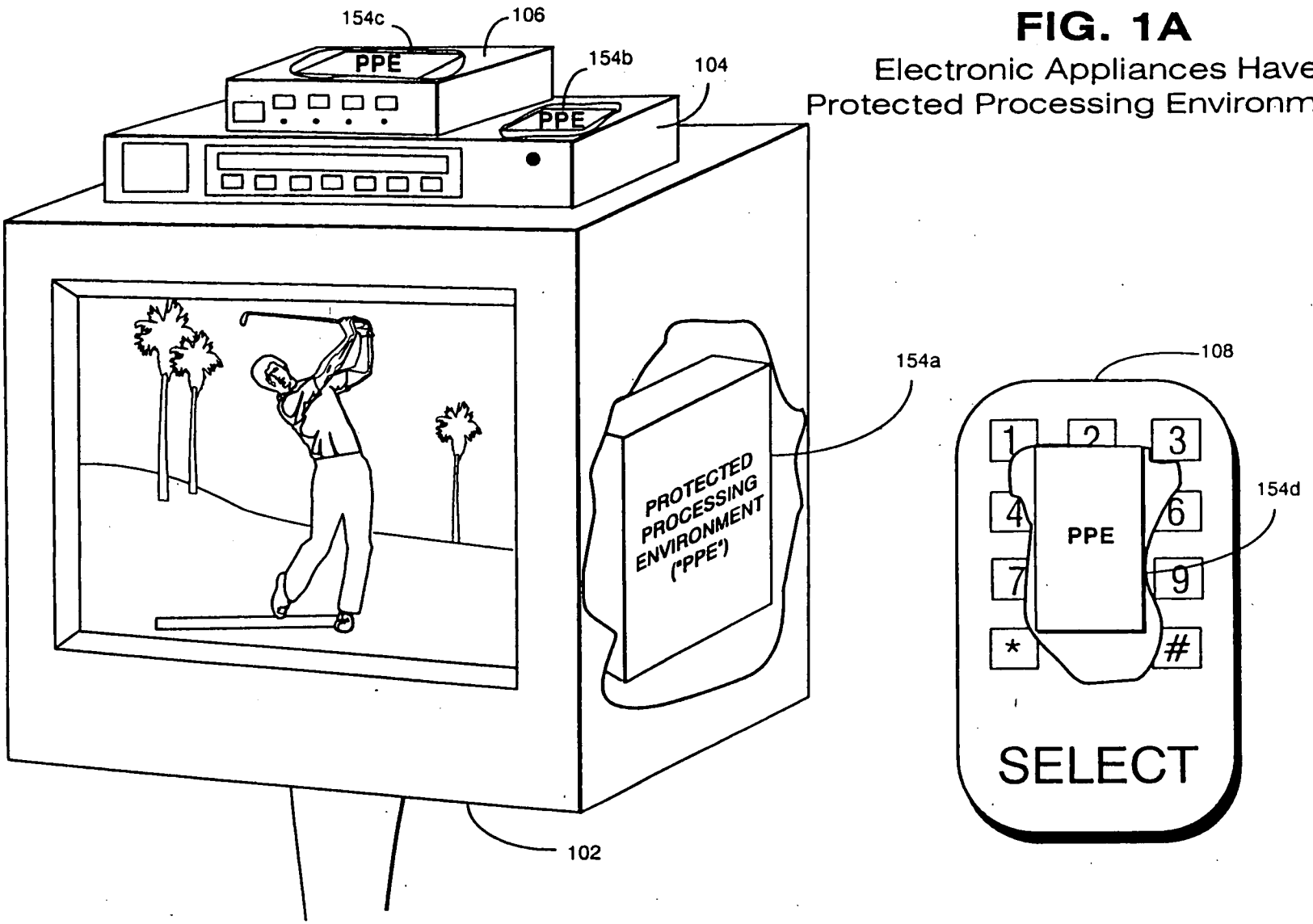


FIG. 1A

Electronic Appliances Have Protected Processing Environments

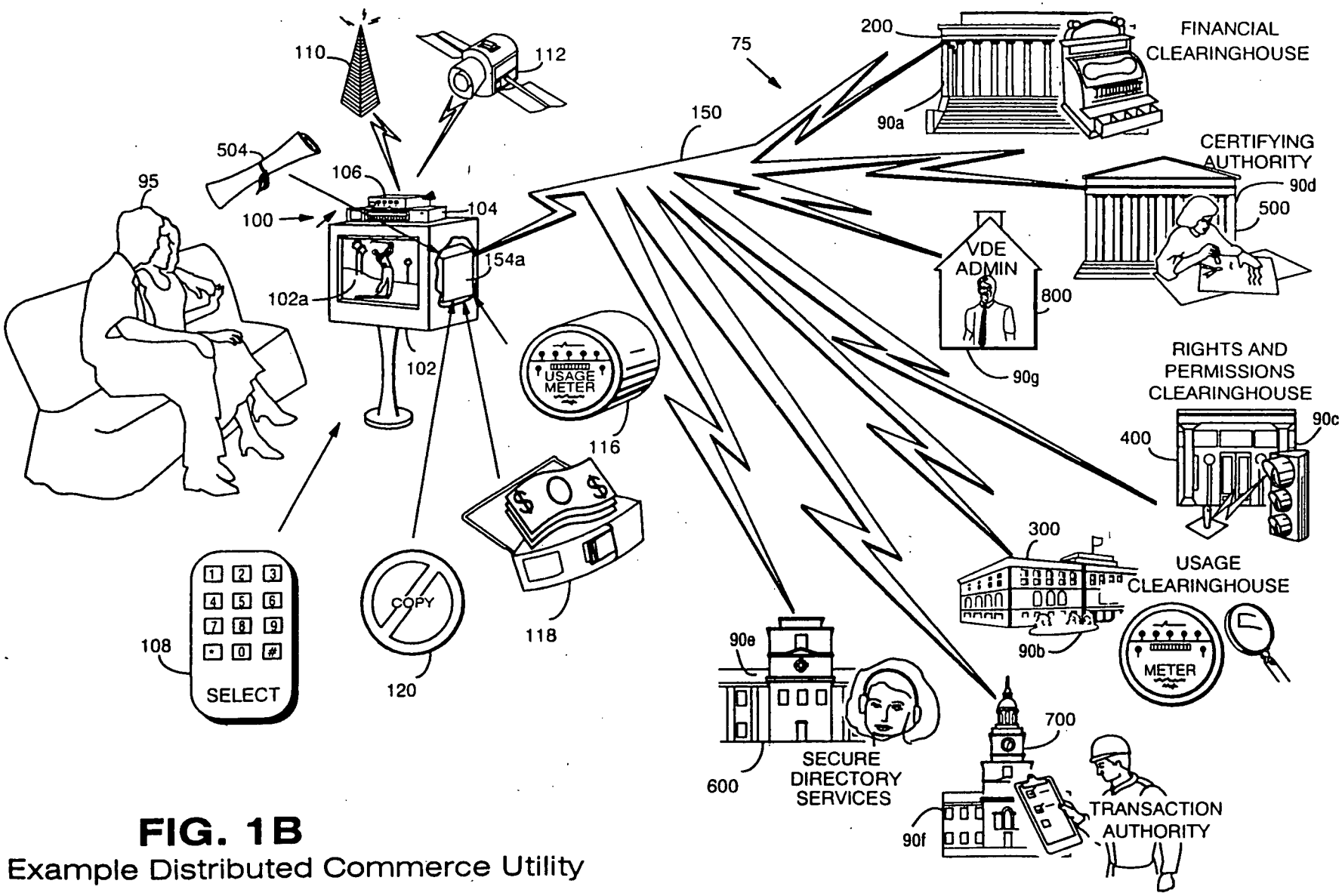


FIG. 1B

Example Distributed Commerce Utility

Docket 3636CA

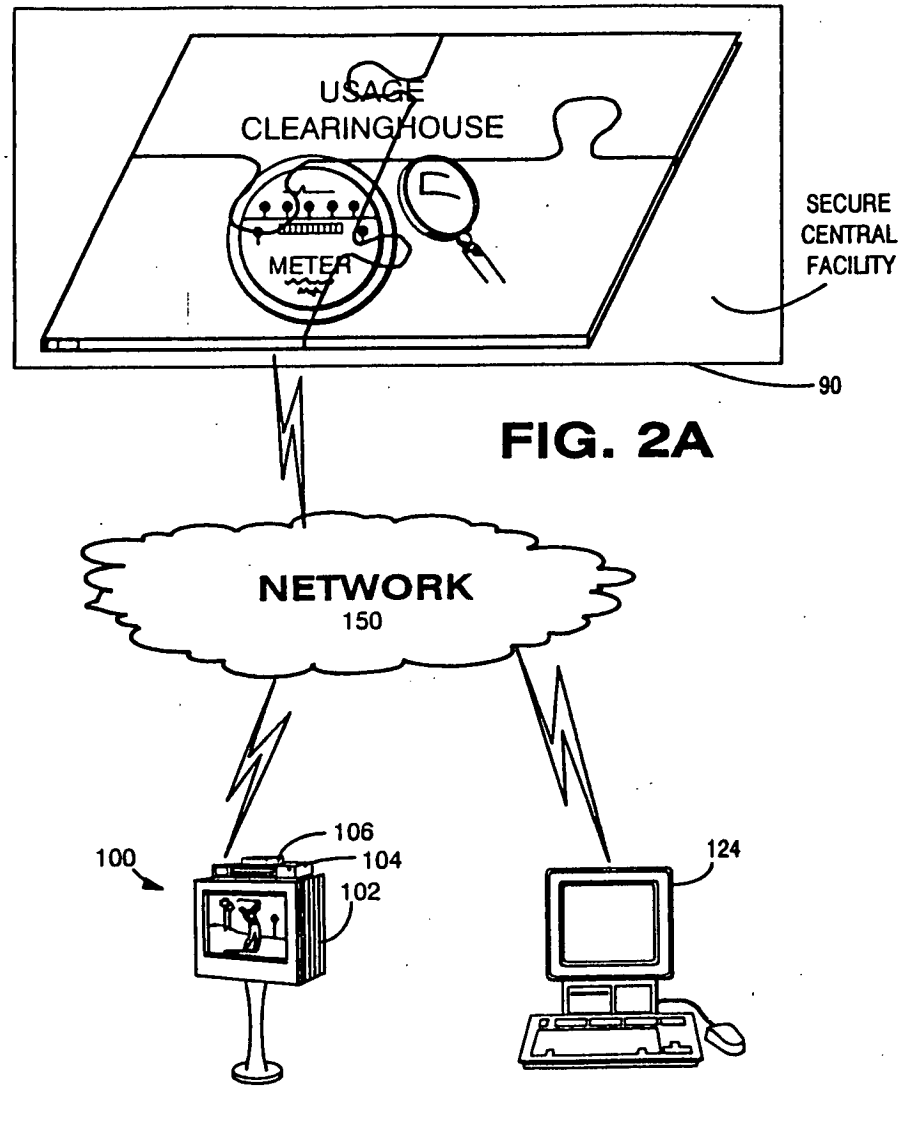


FIG. 2A

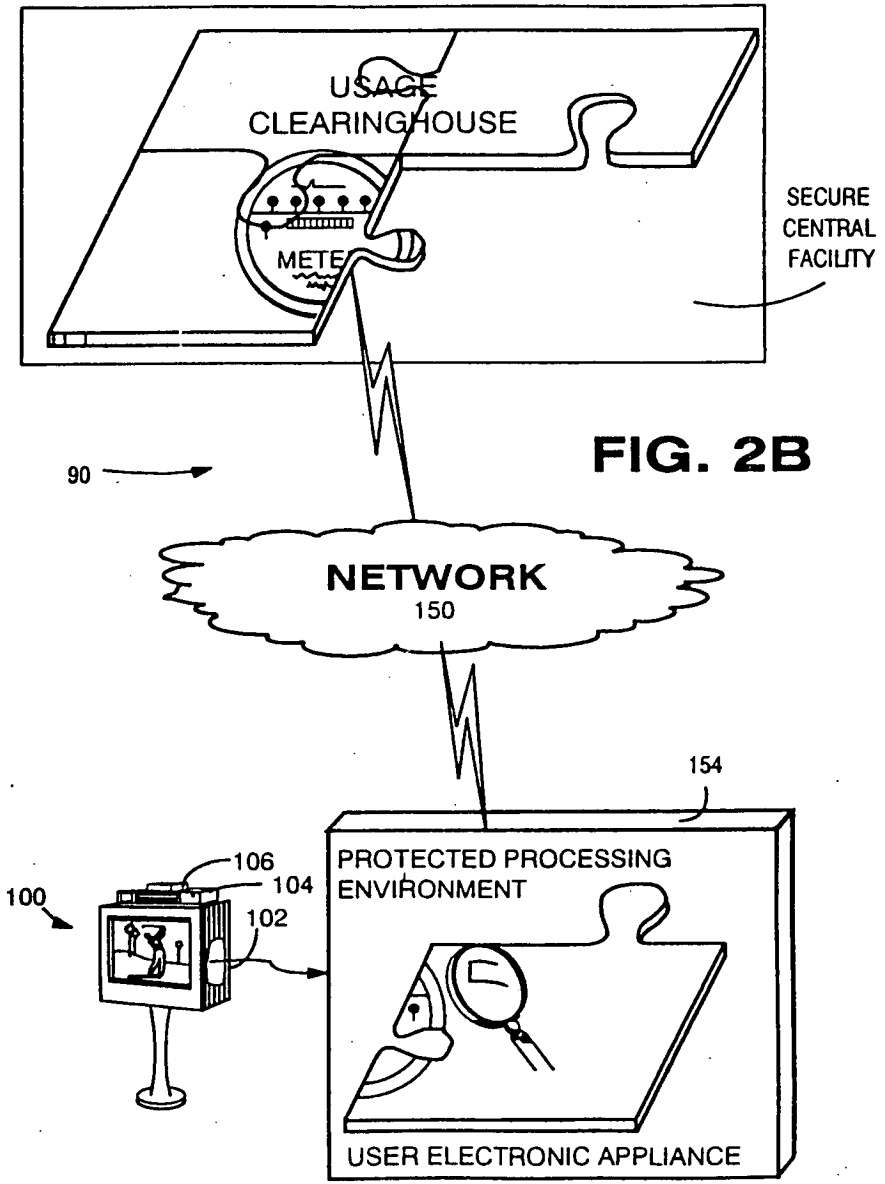


FIG. 2B

5,825,880 - 5,982,891

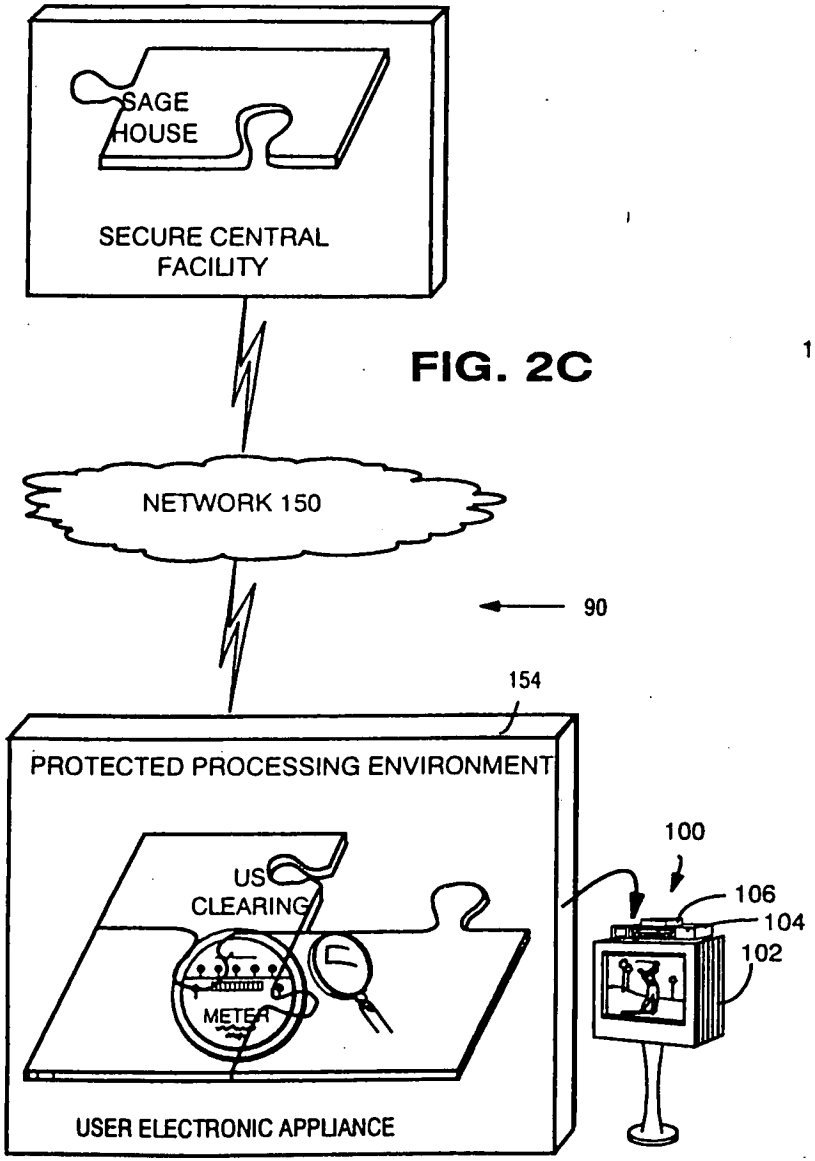


FIG. 2C

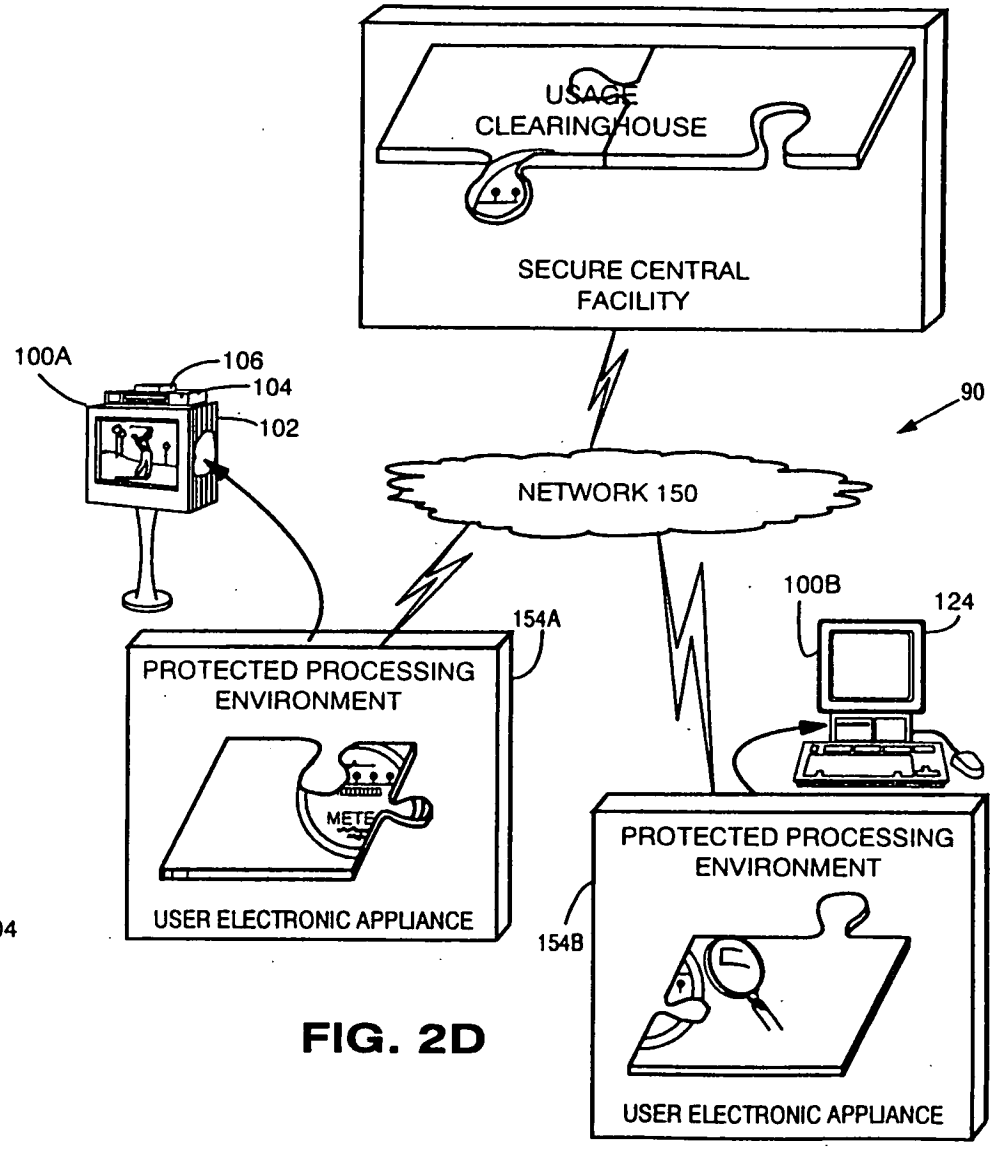


FIG. 2D

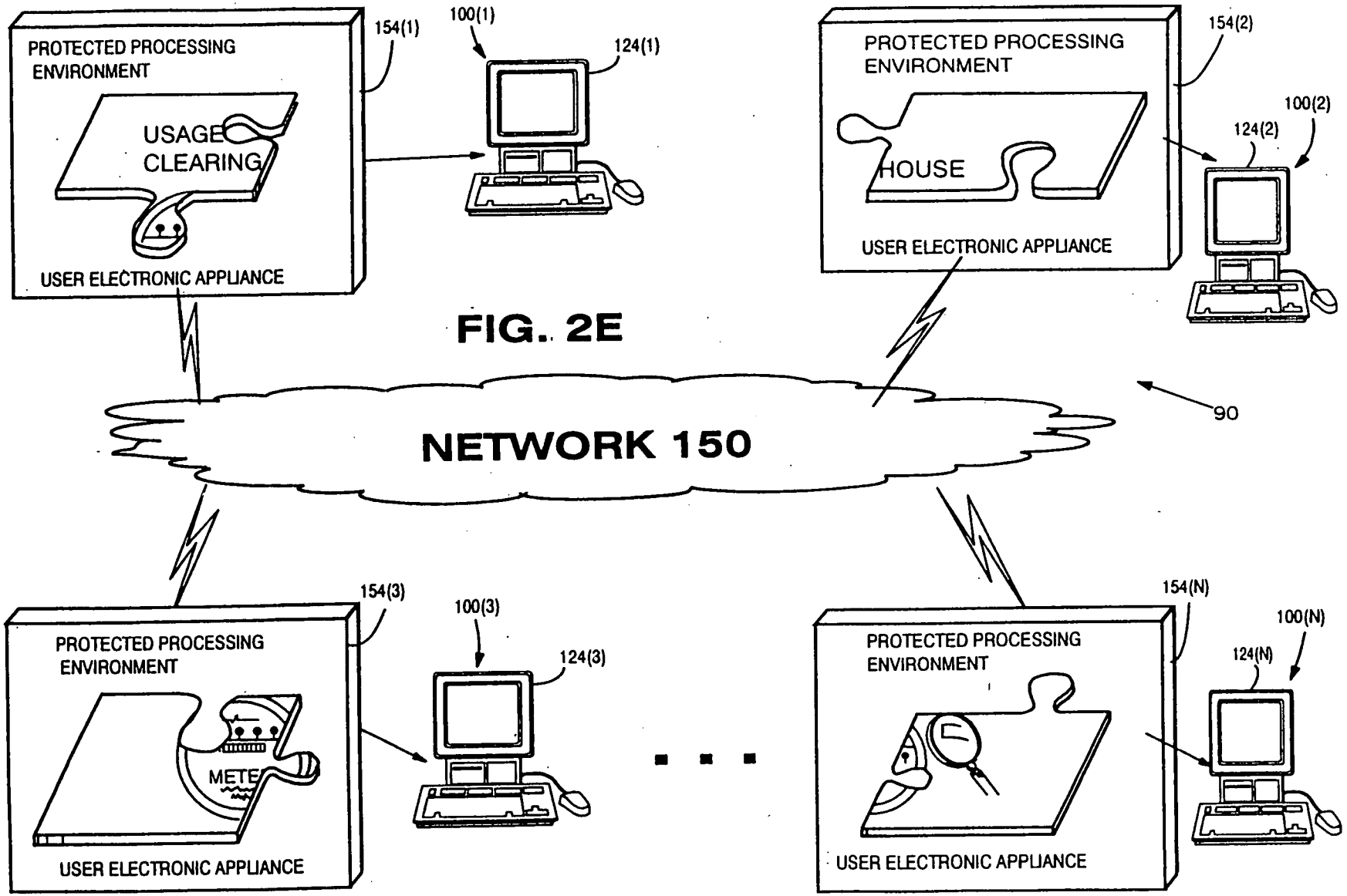
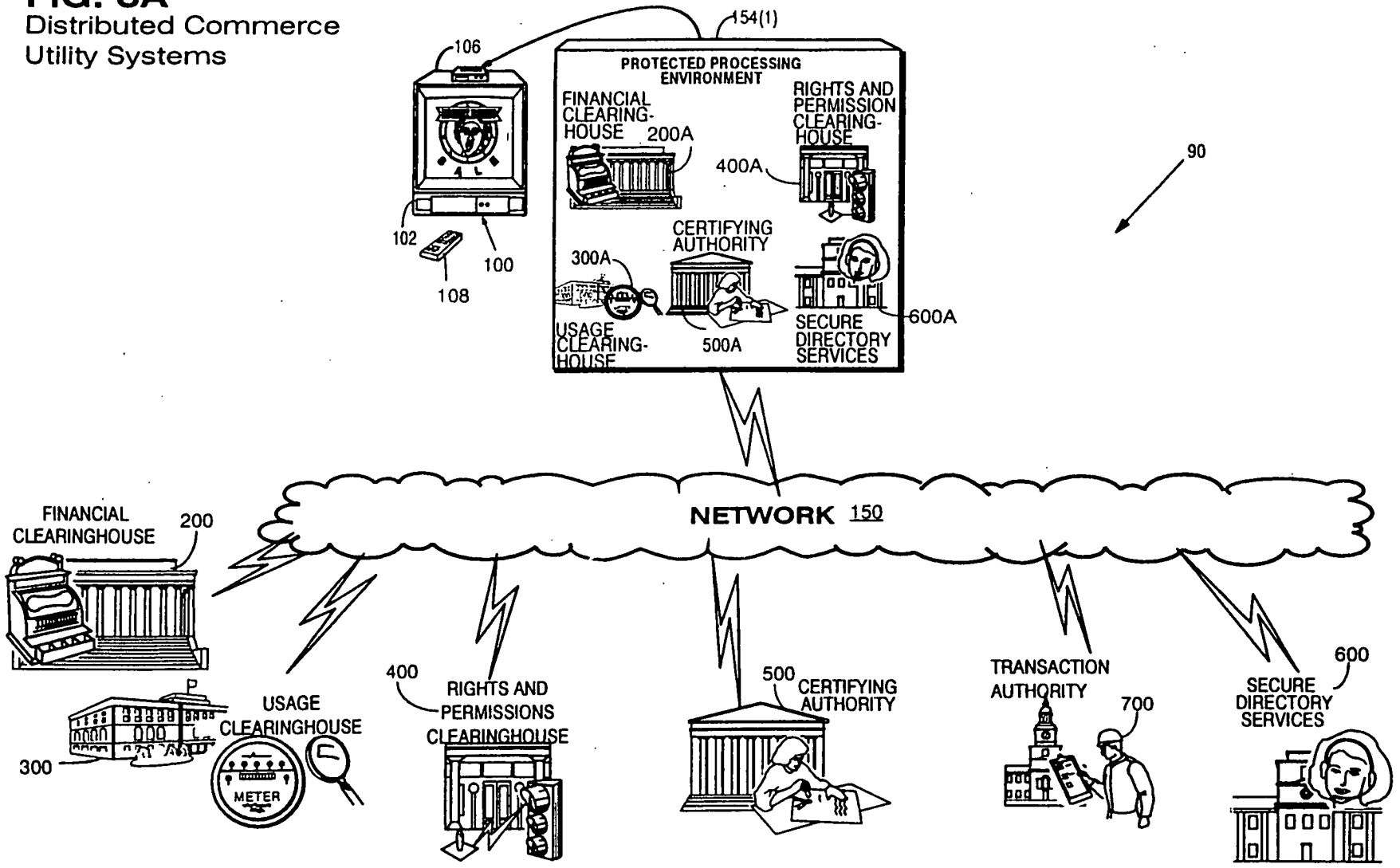

PROTECTED PROCESSING ENVIRONMENT
USAGE CLEARING
USER ELECTRONIC APPLIANCE
154(1)
100(1)
124(1)
PROTECTED PROCESSING ENVIRONMENT
HOUSE
USER ELECTRONIC APPLIANCE
154(2)
100(2)
124(2)
NETWORK 150
90
PROTECTED PROCESSING ENVIRONMENT
METE
USER ELECTRONIC APPLIANCE
154(3)
100(3)
124(3)
PROTECTED PROCESSING ENVIRONMENT
USER ELECTRONIC APPLIANCE
154(N)
100(N)
124(N)

FIG. 2E

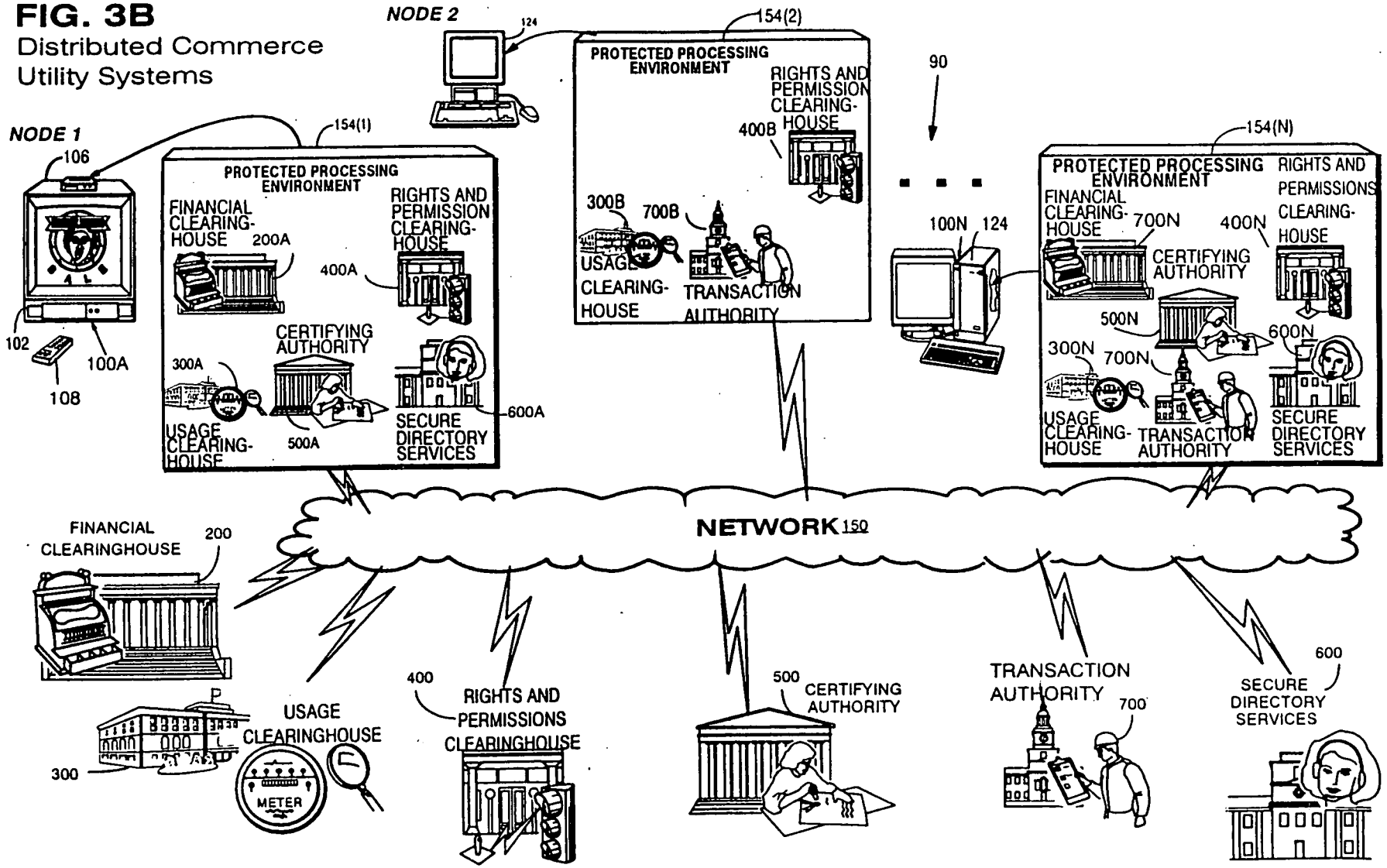
SECTION 3 PAGE 3

FIG. 3A
Distributed Commerce Utility Systems



SECTION 3

FIG. 3B
Distributed Commerce Utility Systems



PATENT APPLICATION

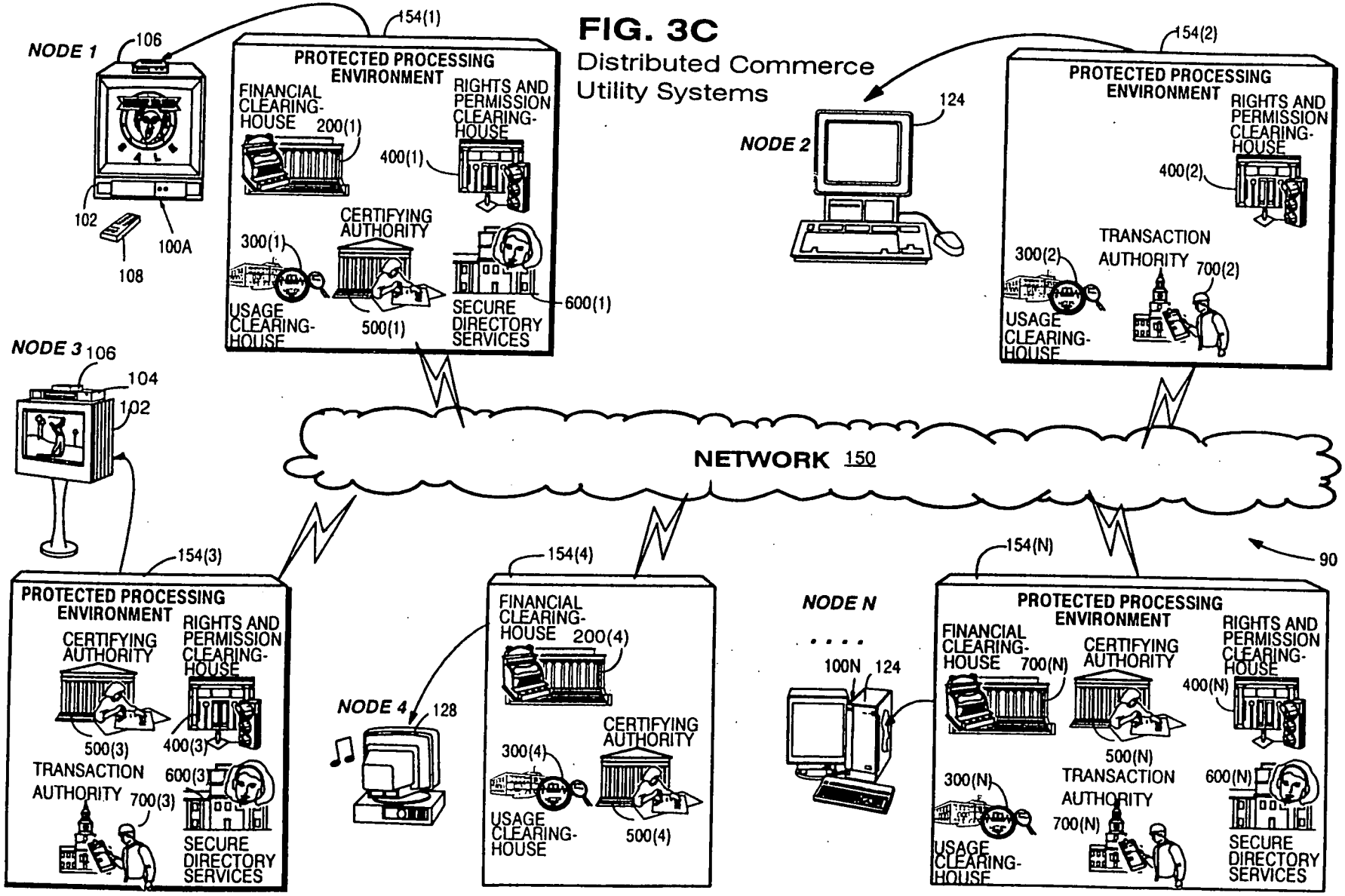
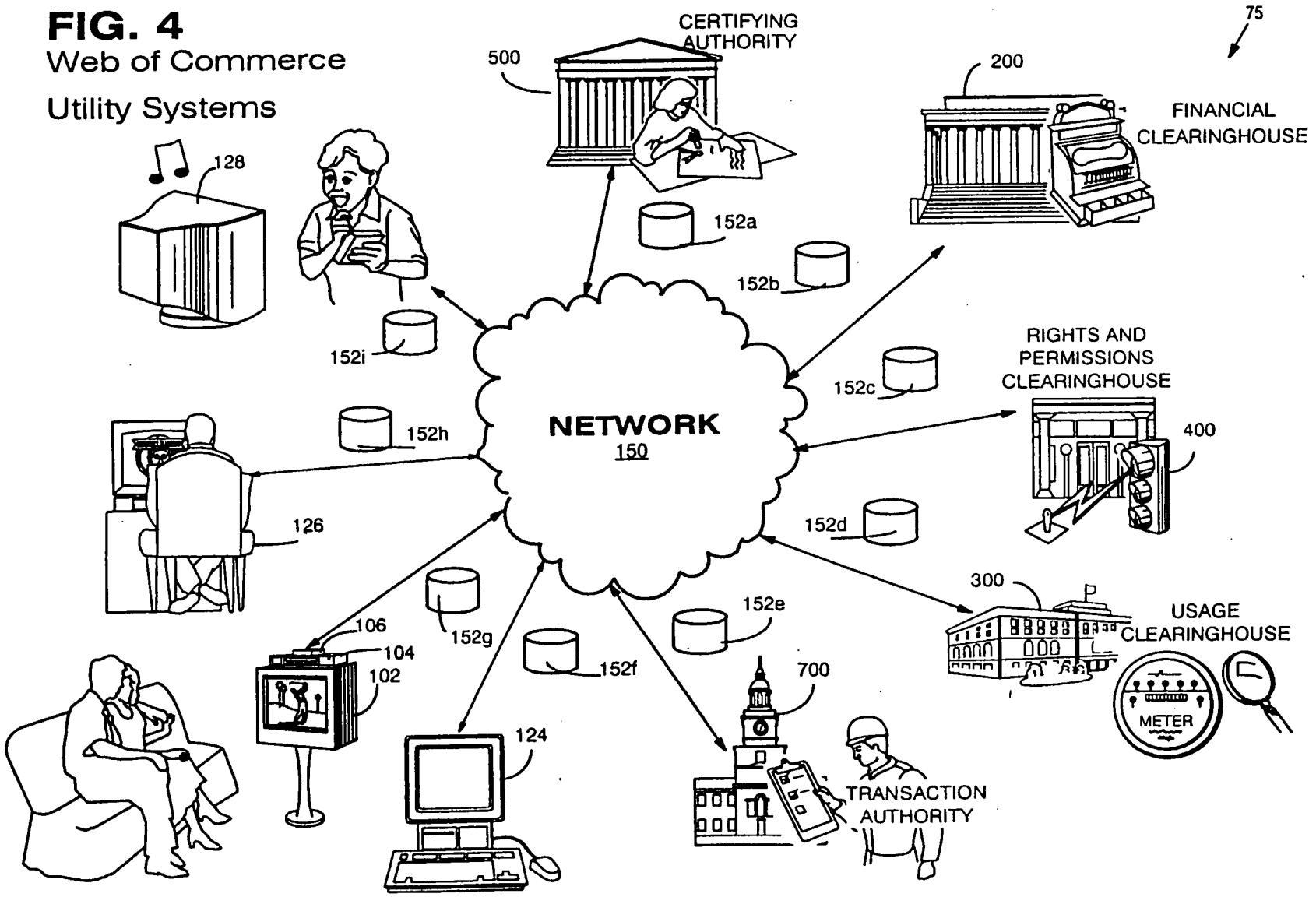


FIG. 3C

Distributed Commerce Utility Systems

6,427,140 B1

FIG. 4
Web of Commerce
Utility Systems



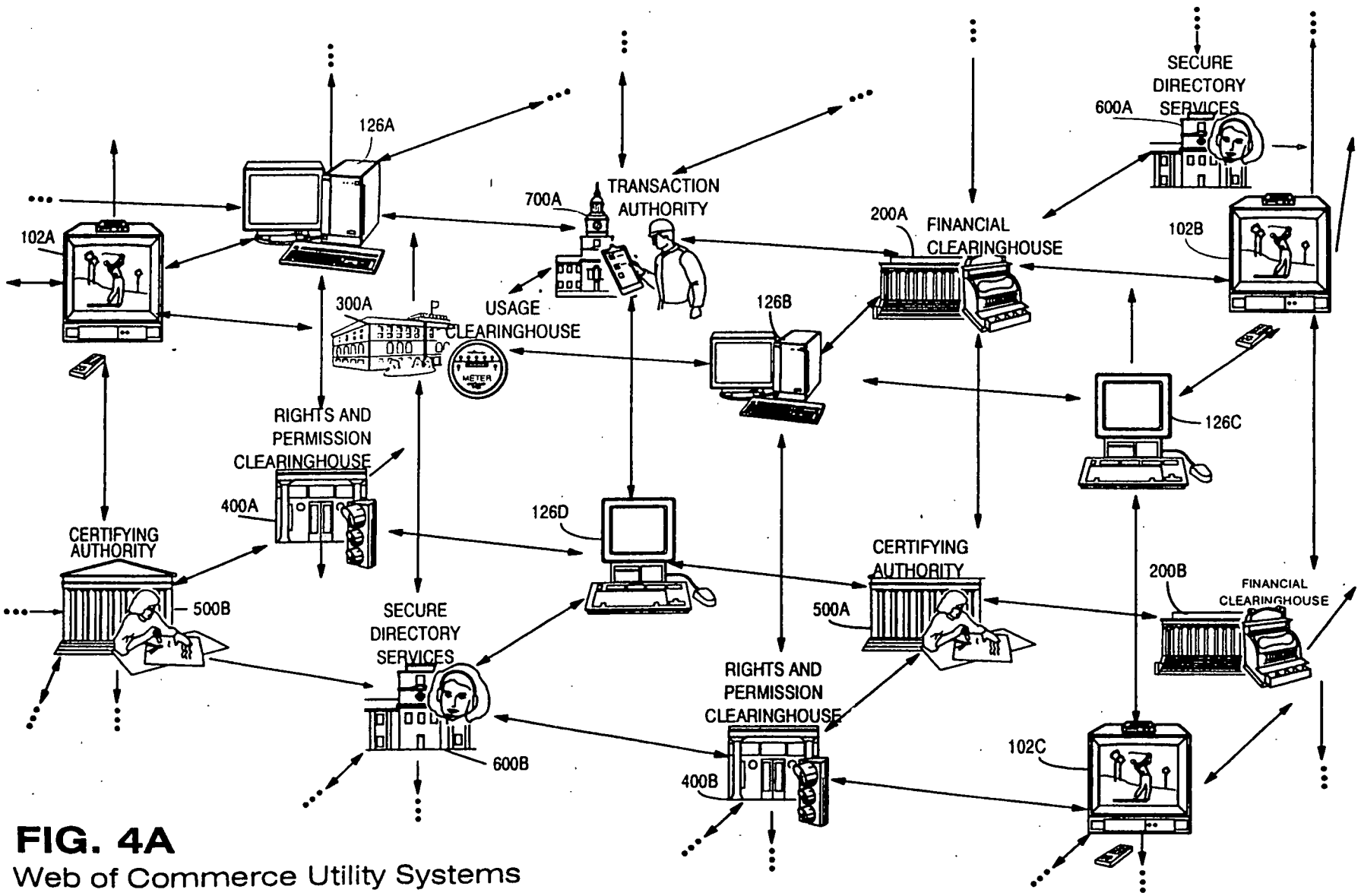


FIG. 4A
Web of Commerce Utility Systems

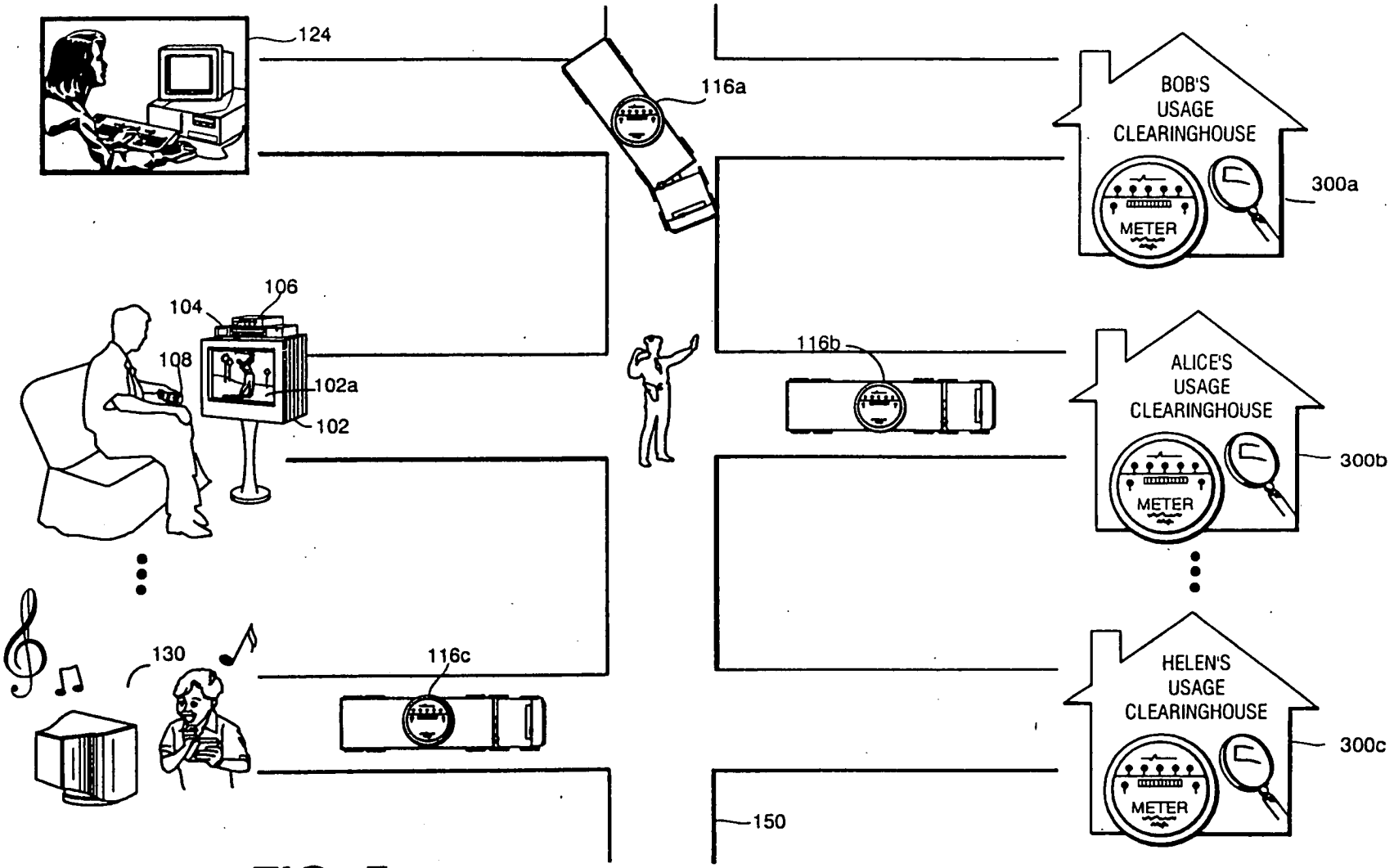
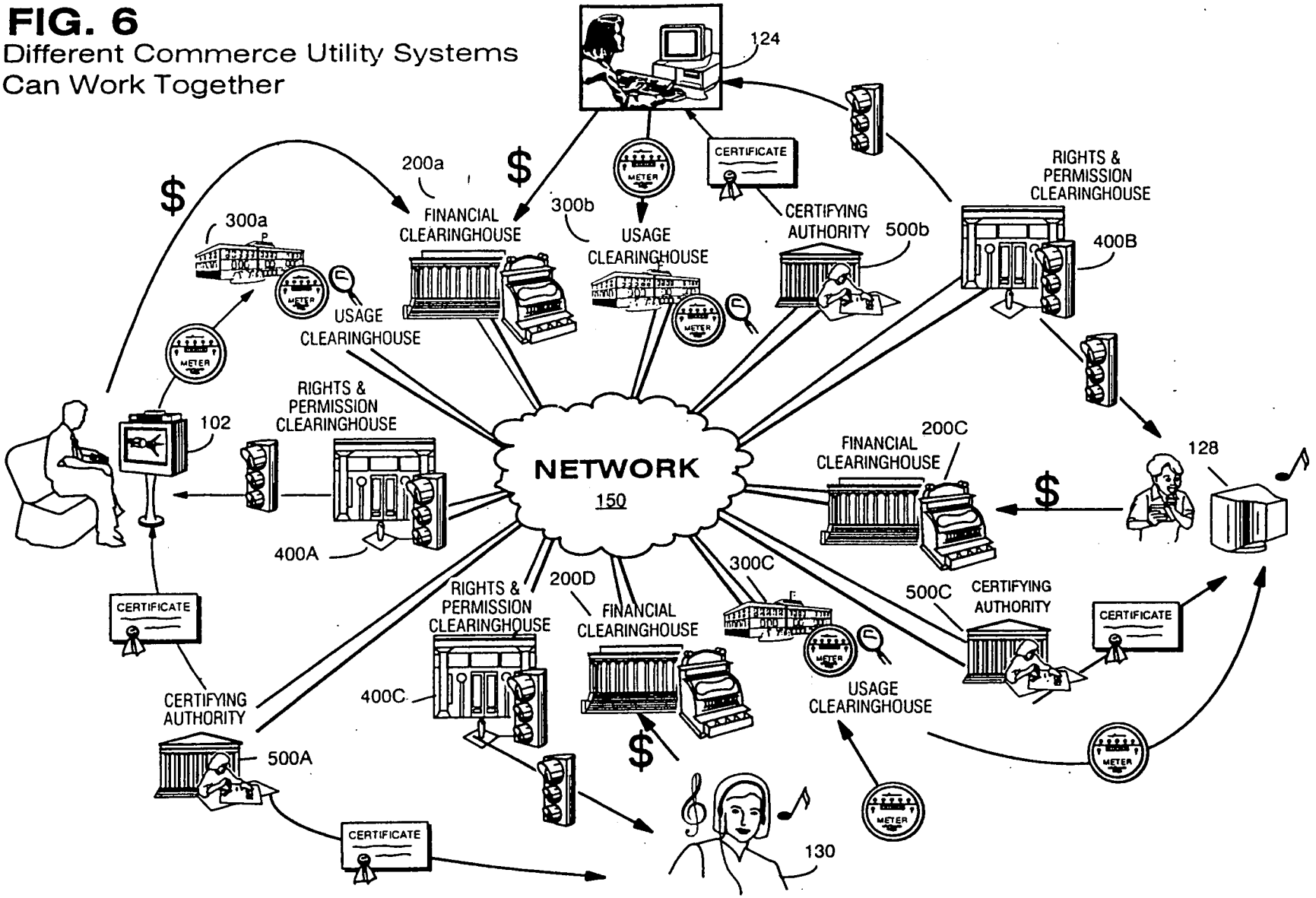


FIG. 5

Rights Holders Can Choose Between Commerce Utility Systems

FIG. 6
Different Commerce Utility Systems Can Work Together



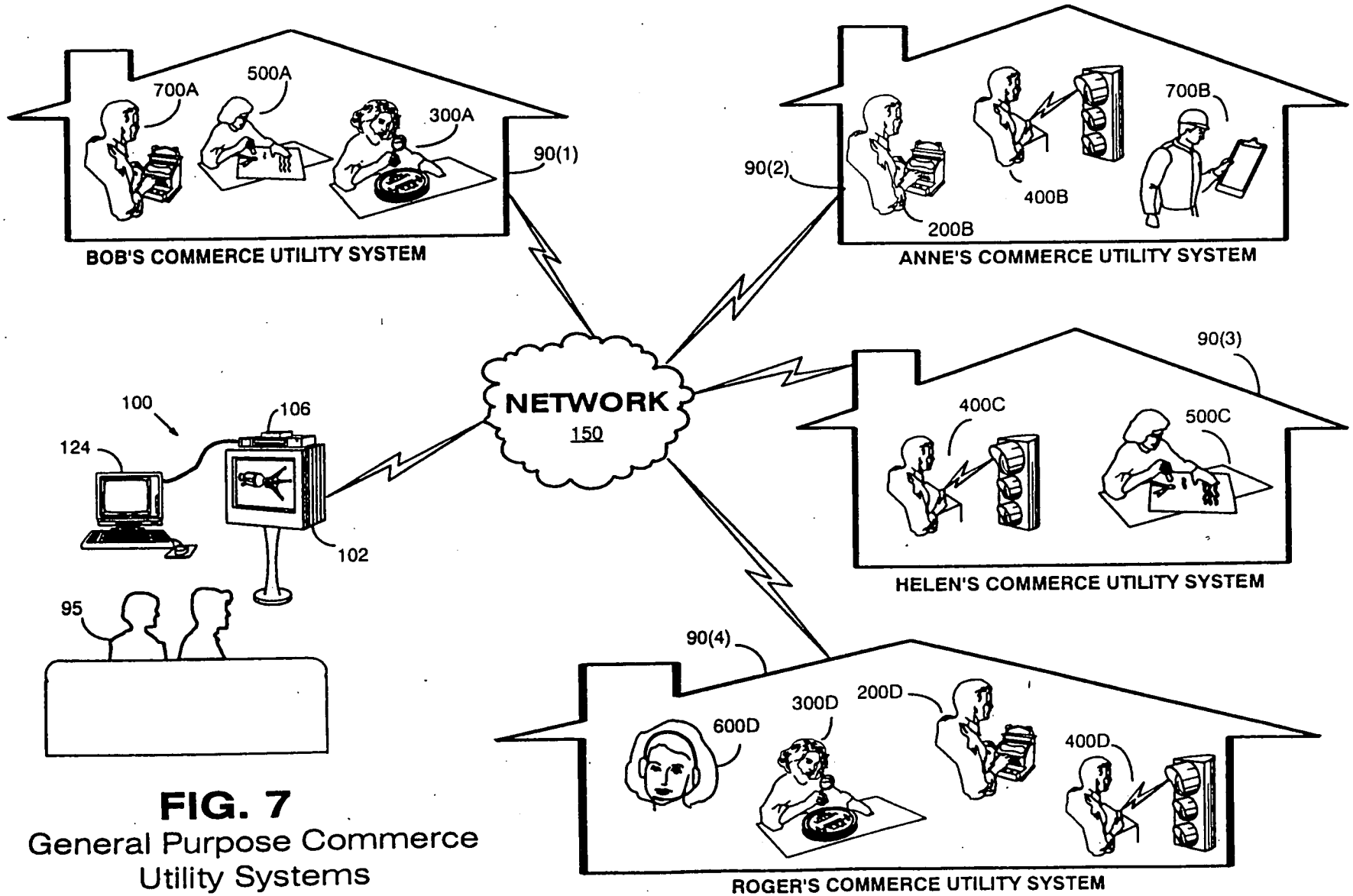


FIG. 7
General Purpose Commerce Utility Systems

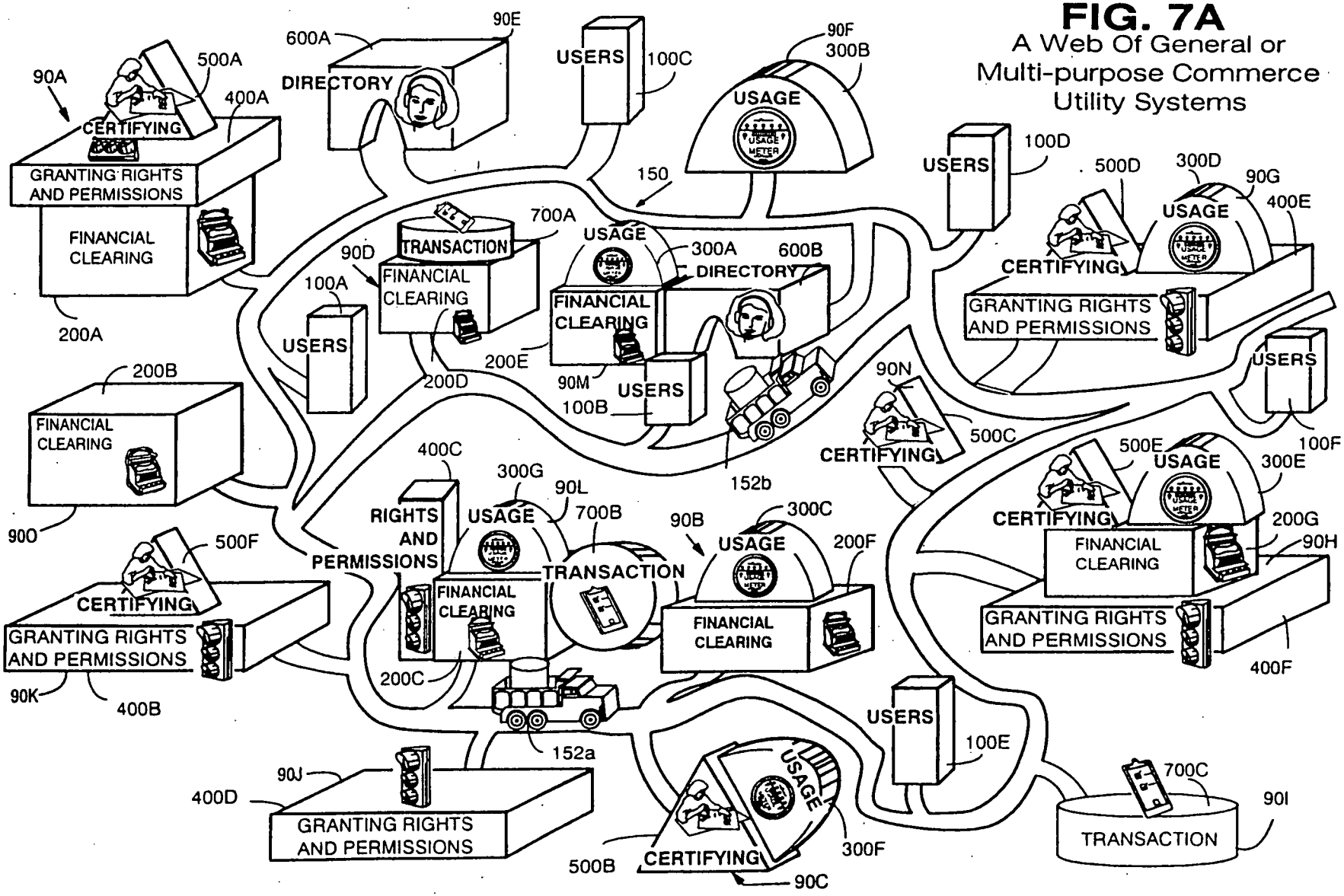


FIG. 7A
A Web Of General or Multi-purpose Commerce Utility Systems

DOCKET ALARM

FIG. 8A

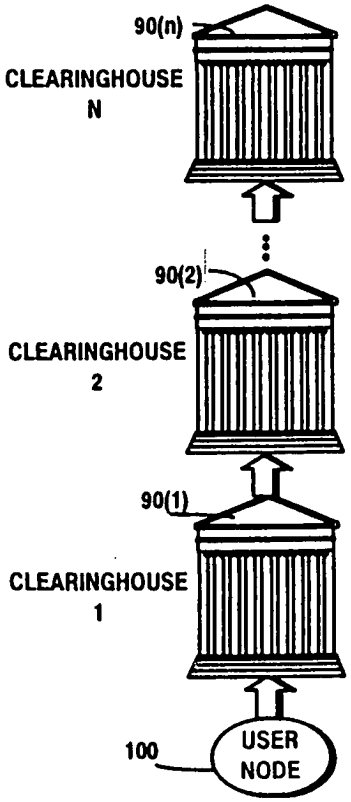
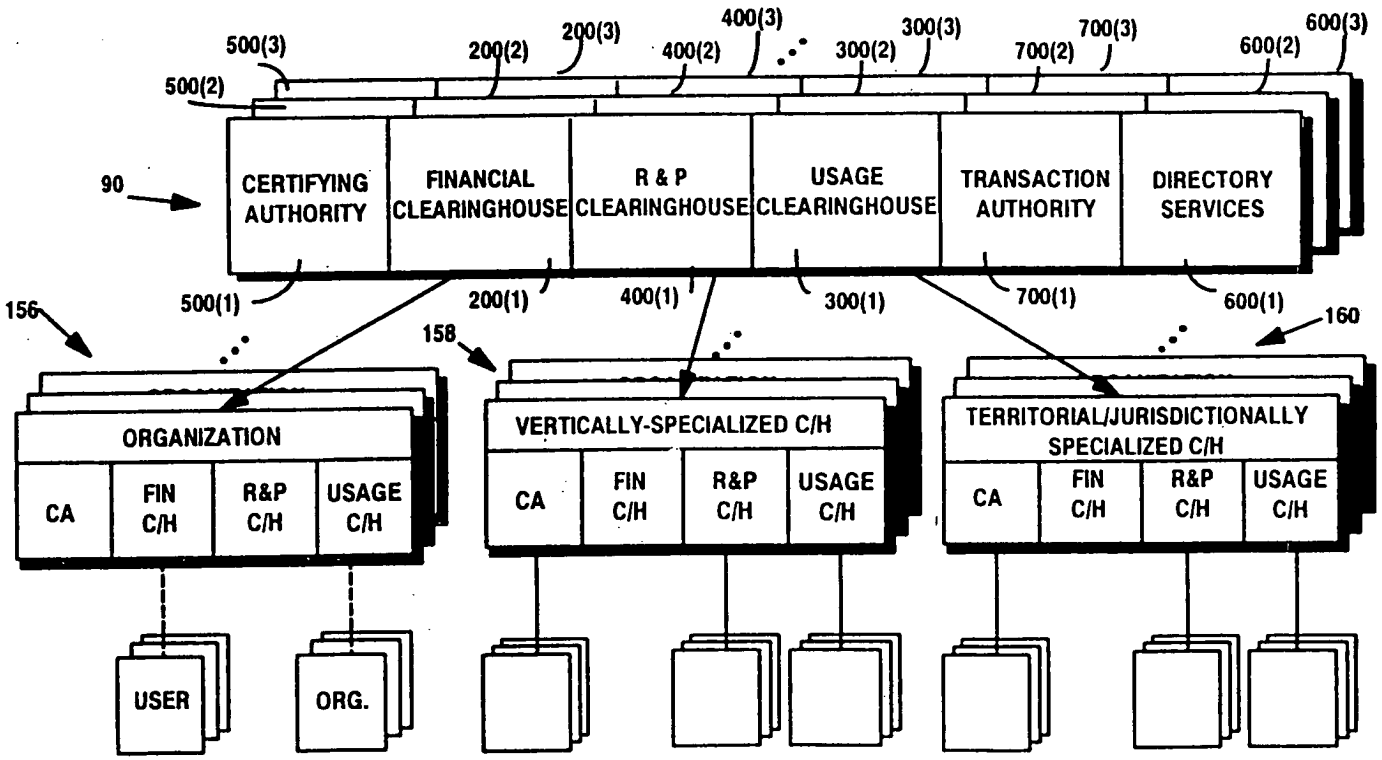


FIG. 8B

Hierarchy Of Commerce Utility Systems



Scanned with CamScanner

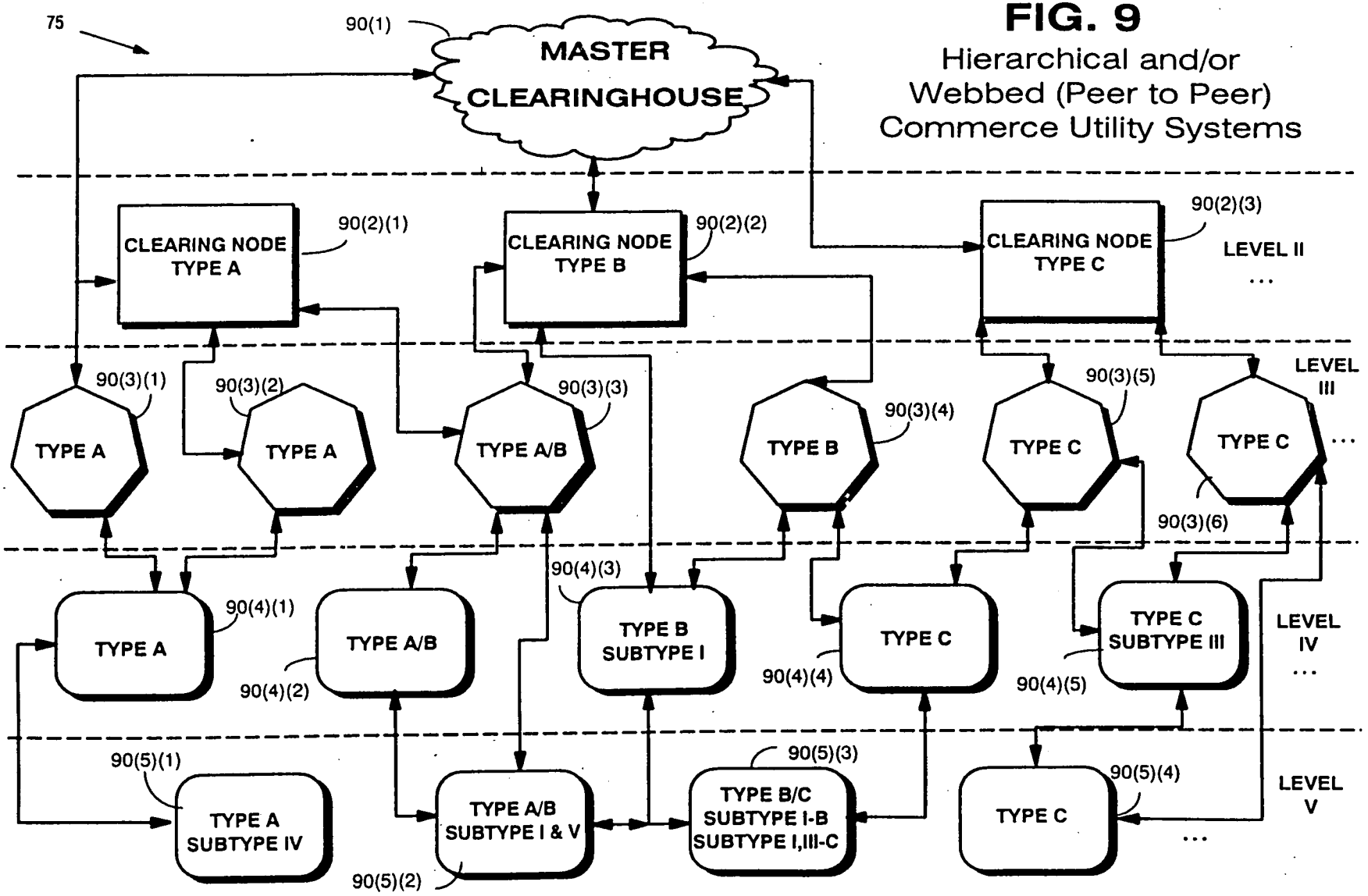


FIG. 9

Hierarchical and/or Webbed (Peer to Peer) Commerce Utility Systems

FIG. 10 Financial Clearinghouse

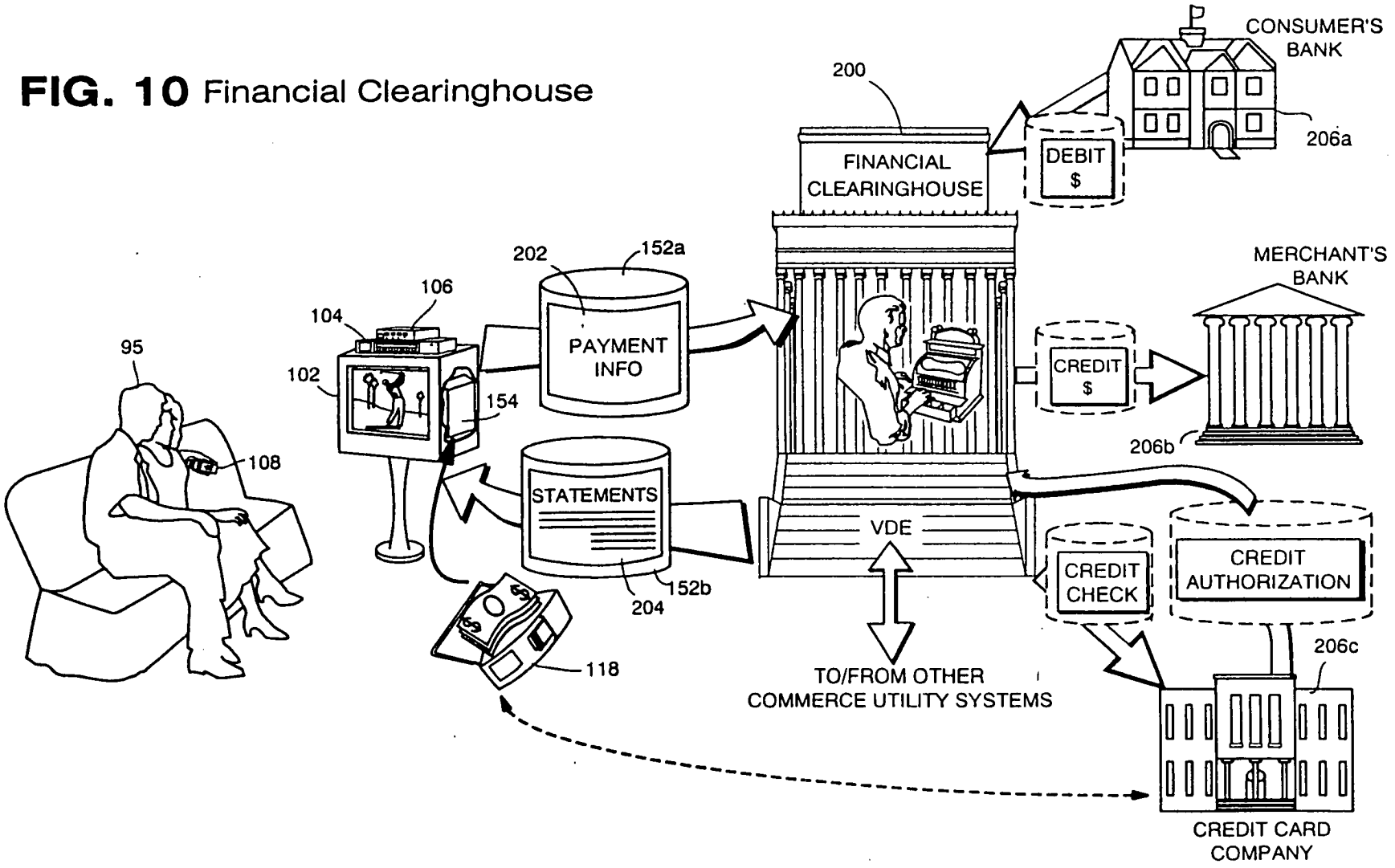


FIG. 11 Usage Clearinghouse

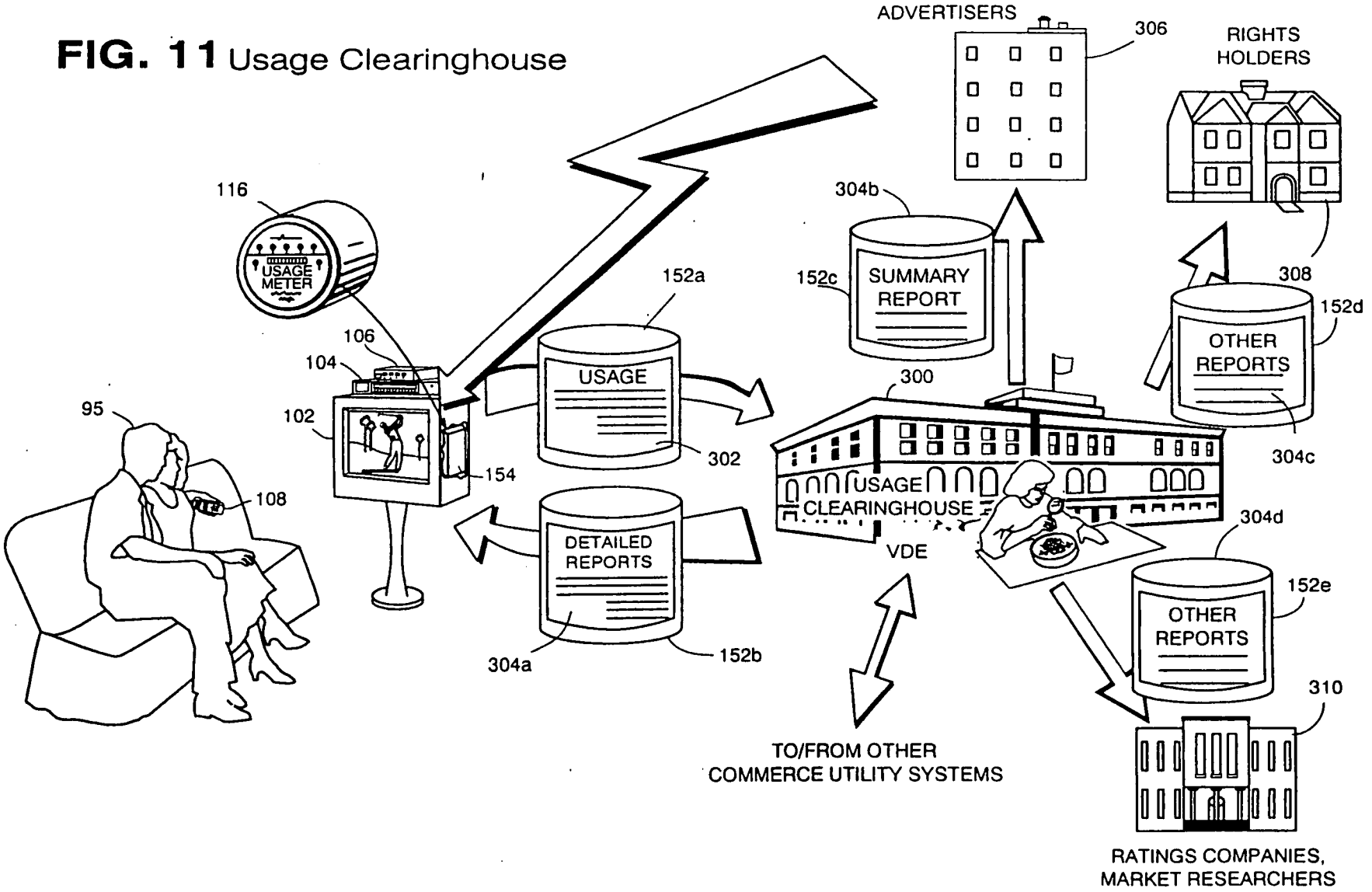


FIG. 12 Rights and Permissions Clearinghouse

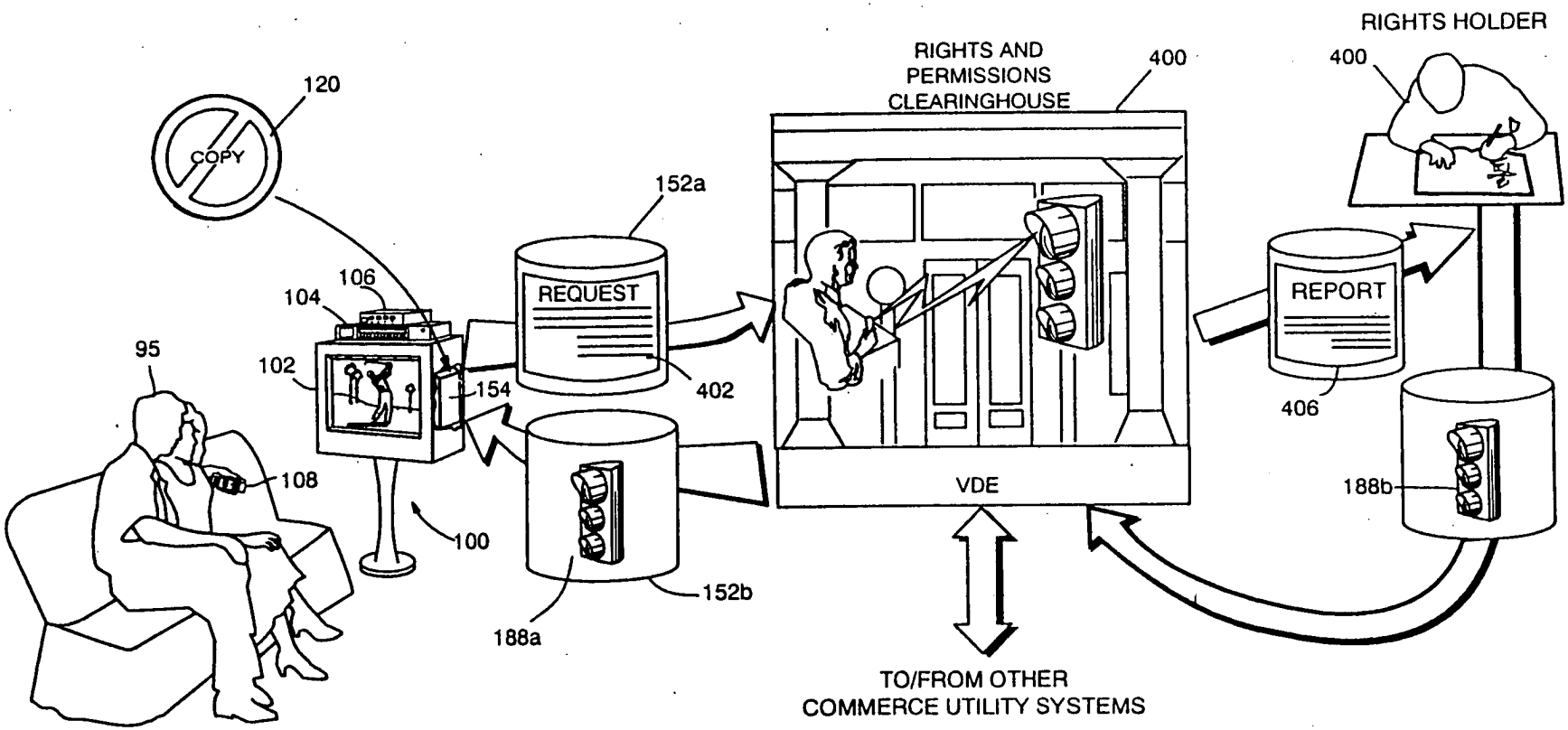


FIG. 13 Certifying Authority

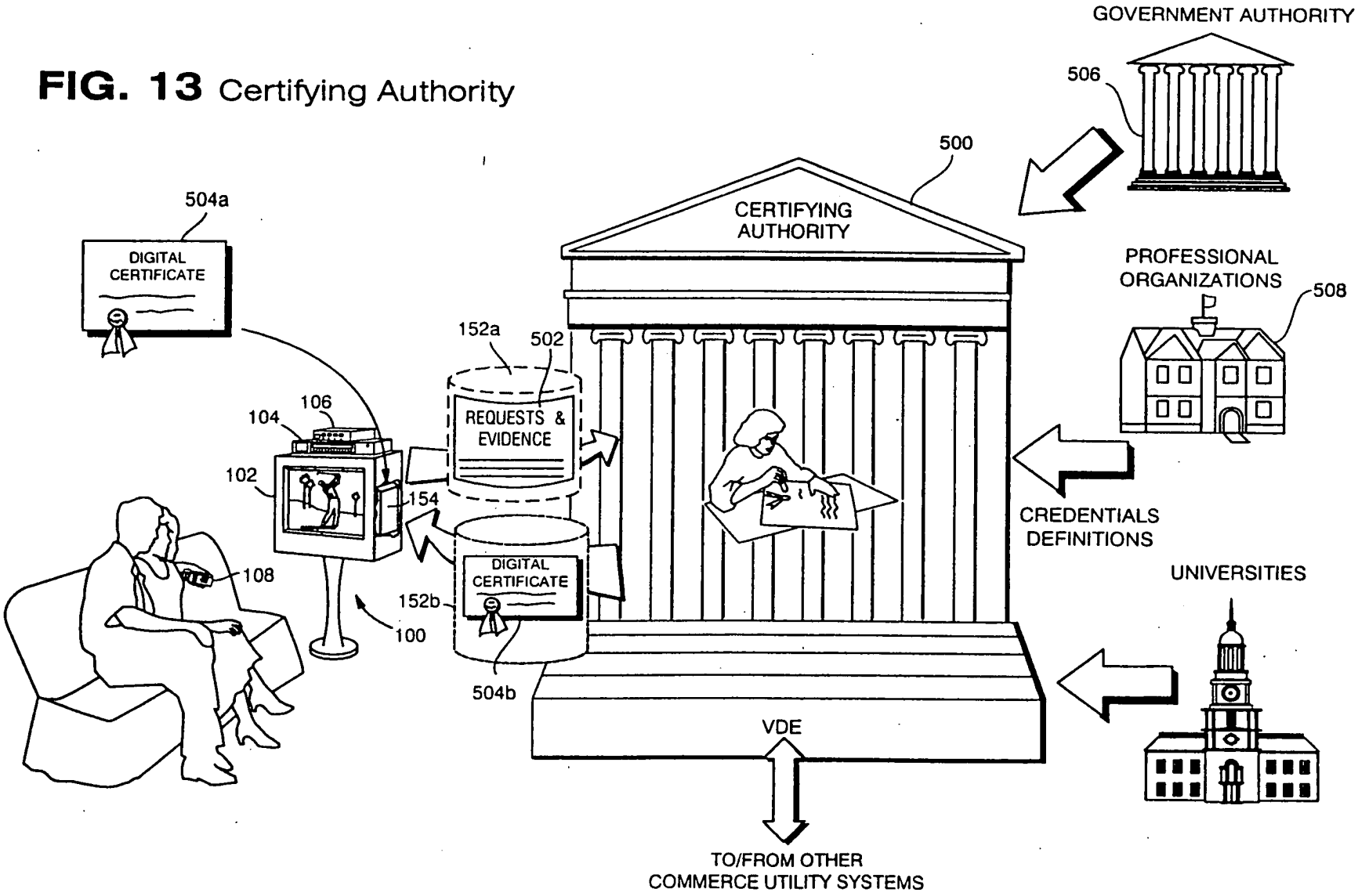


FIG. 14 Secure Directory Services

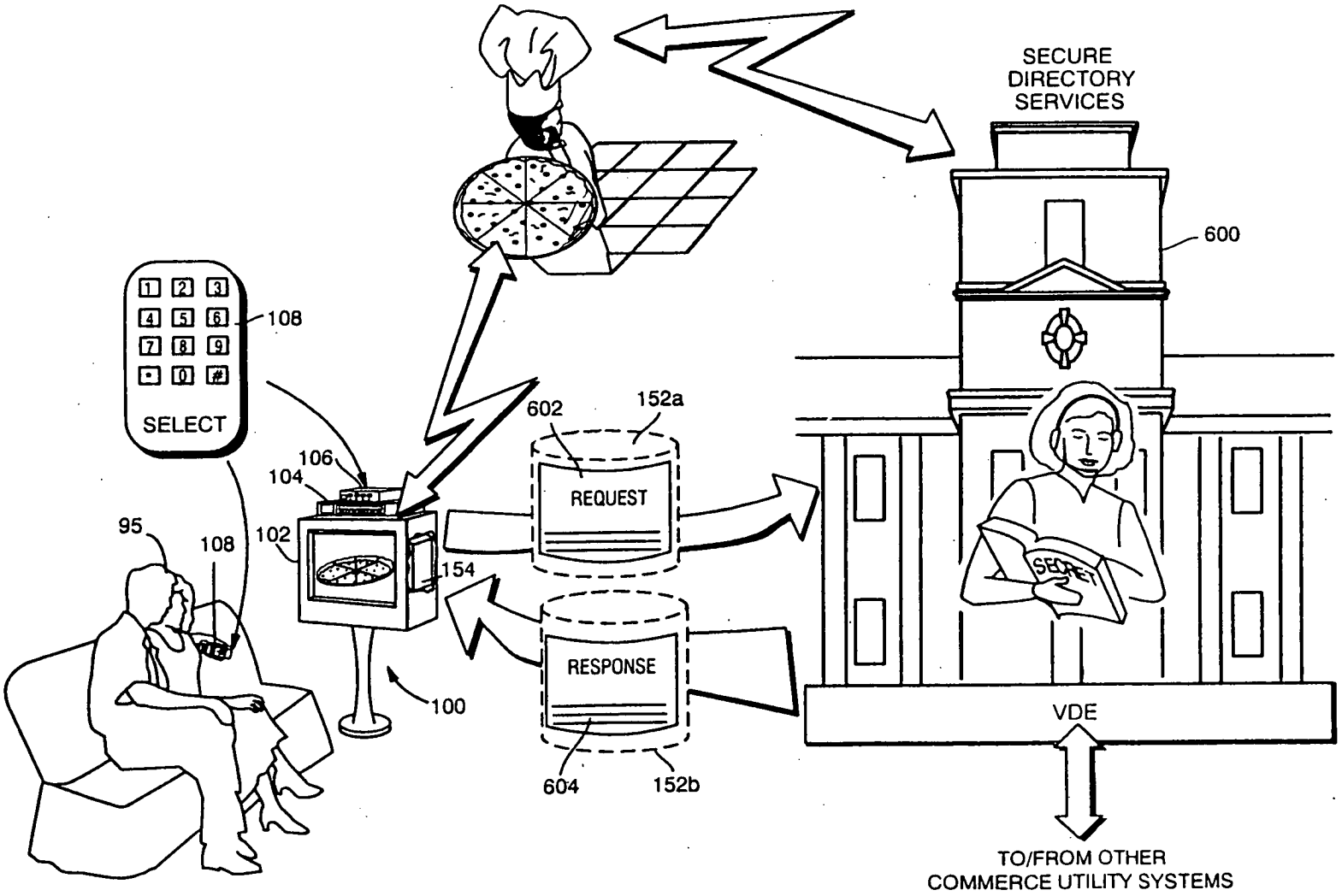


FIG. 15

Transaction Authority

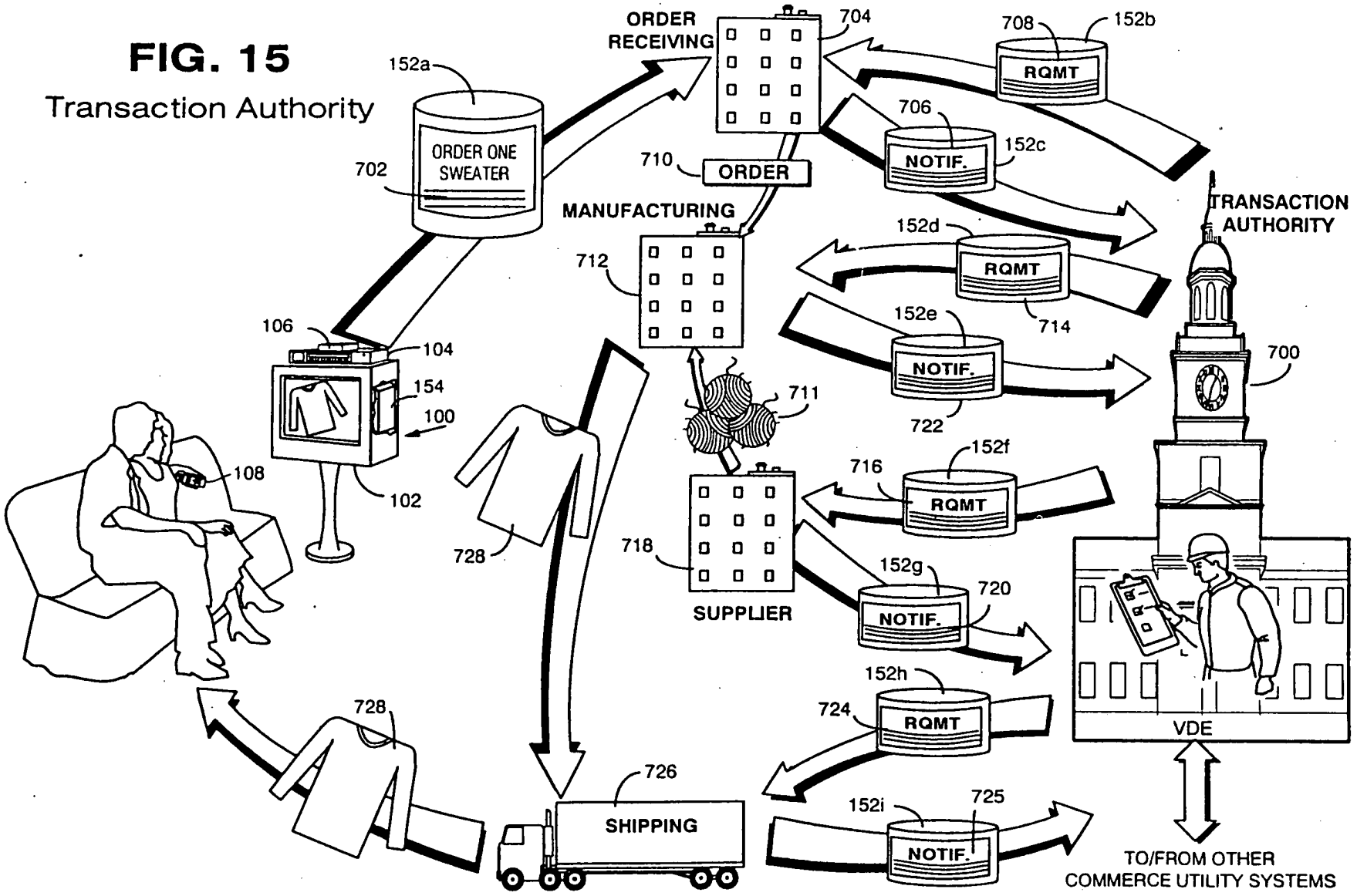


FIG. 16A

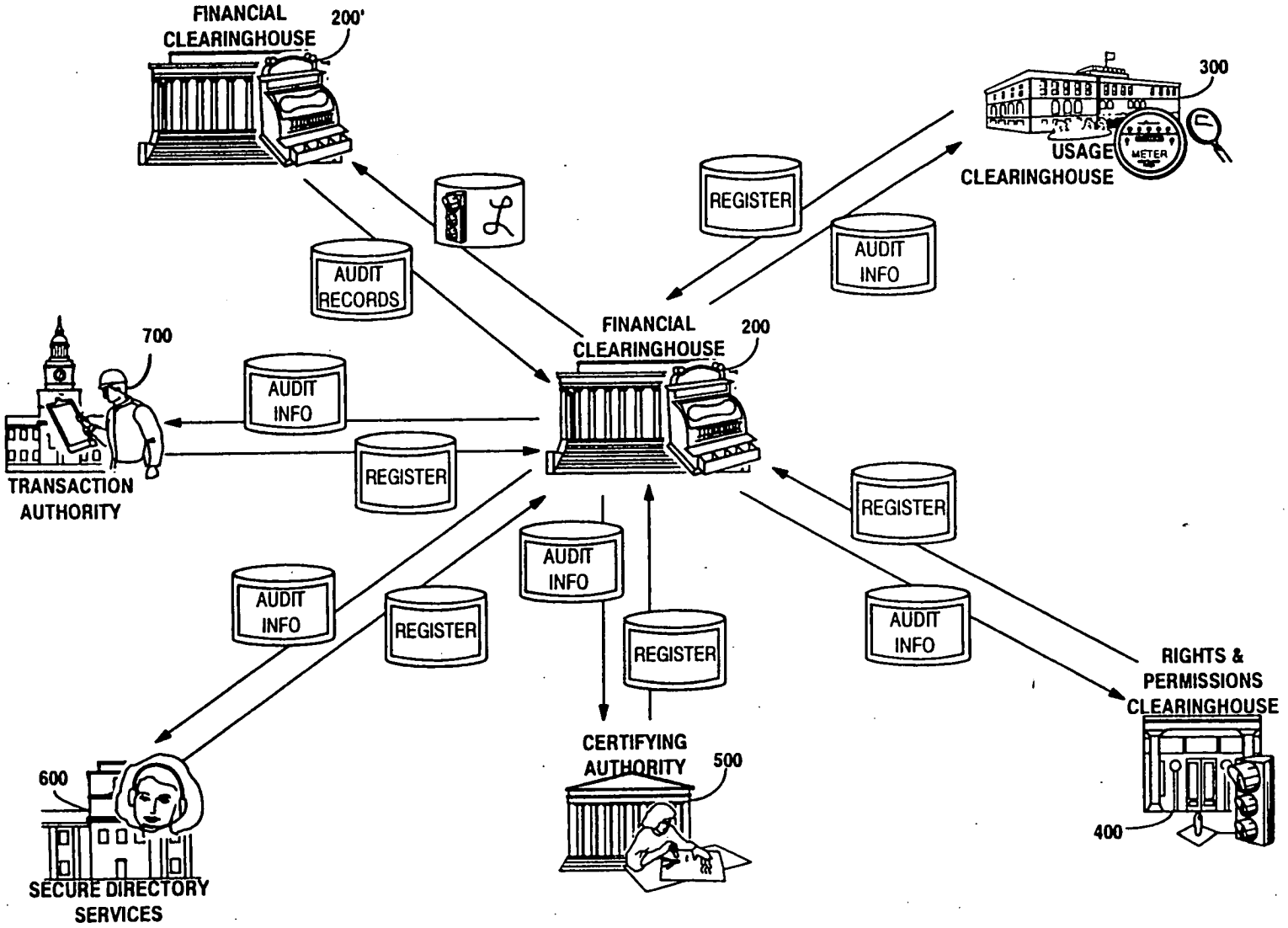

FINANCIAL CLEARINGHOUSE
200'
300
USAGE CLEARINGHOUSE
METER
REGISTER
AUDIT INFO
AUDIT RECORDS
700
FINANCIAL CLEARINGHOUSE
200
AUDIT INFO
TRANSACTION AUTHORITY
REGISTER
REGISTER
AUDIT INFO
AUDIT INFO
REGISTER
REGISTER
AUDIT INFO
RIGHTS & PERMISSIONS CLEARINGHOUSE
CERTIFYING AUTHORITY
500
600
400
SECURE DIRECTORY SERVICES

FIG. 16B

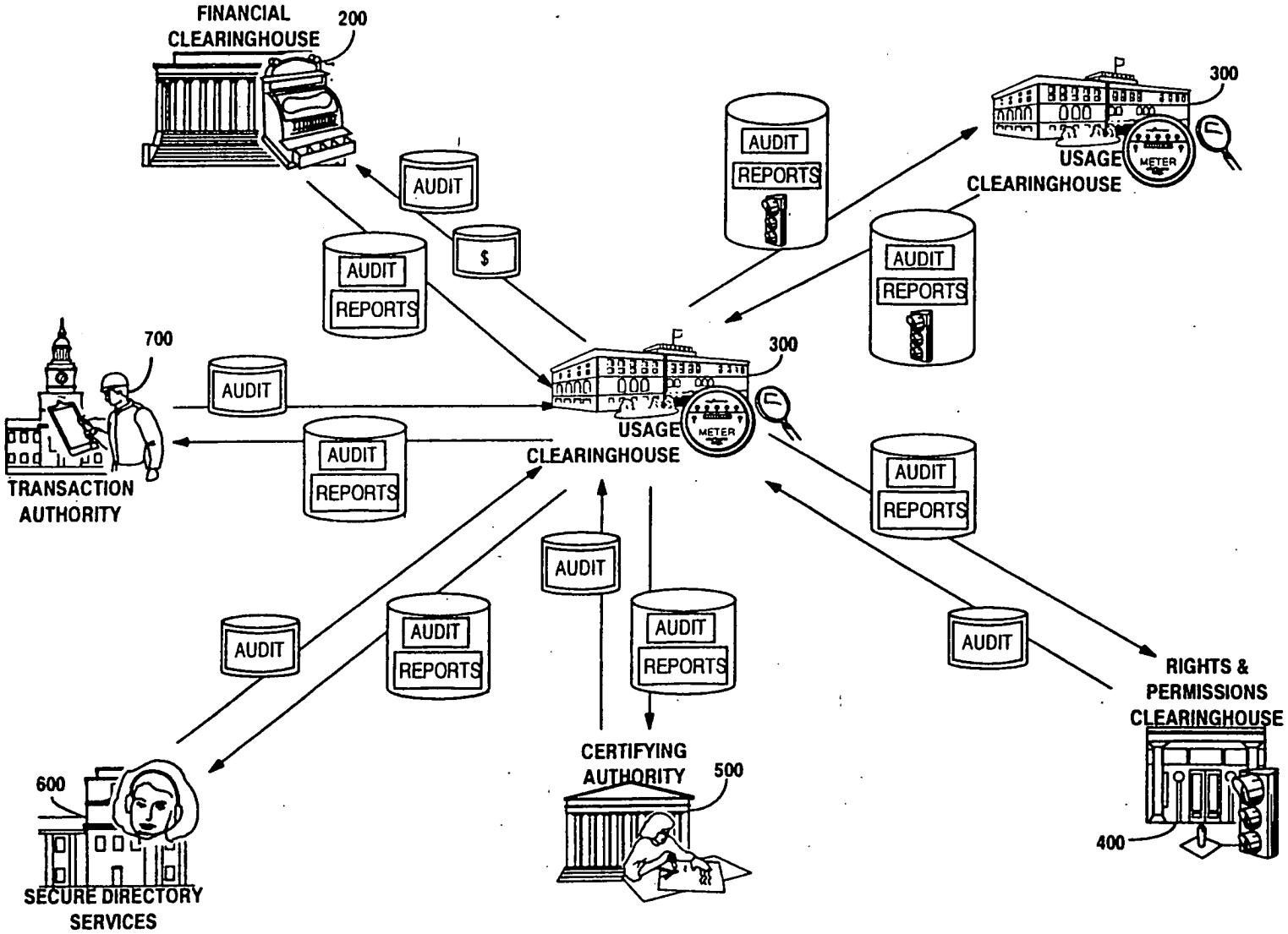

FINANCIAL CLEARINGHOUSE
200
AUDIT
$
AUDIT
REPORTS
AUDIT
REPORTS
300
USAGE CLEARINGHOUSE
AUDIT
REPORTS
700
AUDIT
AUDIT
REPORTS
TRANSACTION AUTHORITY
300
USAGE CLEARINGHOUSE
AUDIT
REPORTS
AUDIT
AUDIT
REPORTS
AUDIT
REPORTS
AUDIT
RIGHTS & PERMISSIONS CLEARINGHOUSE
CERTIFYING AUTHORITY
500
600
SECURE DIRECTORY SERVICES
400

FIG. 16C

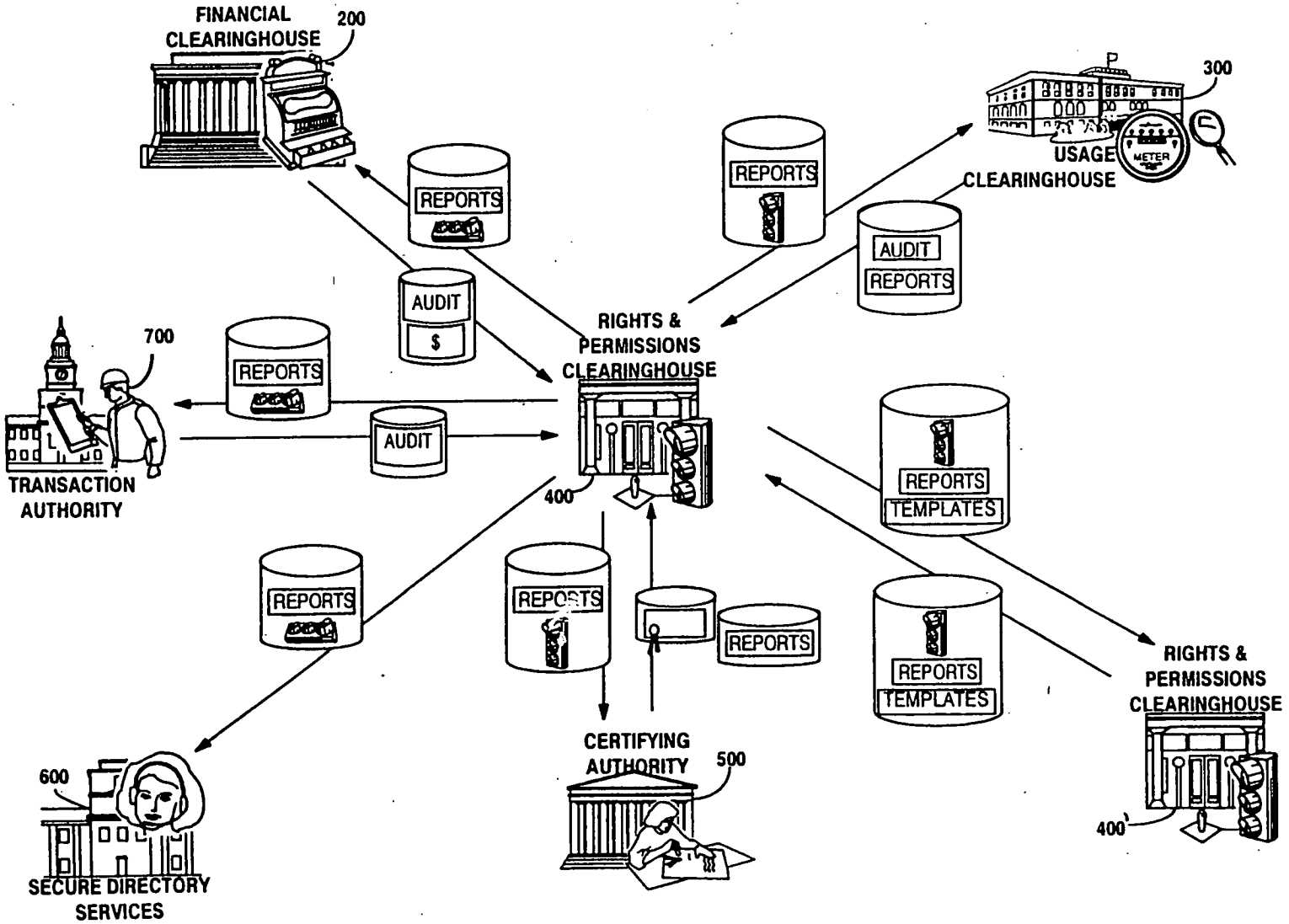

FINANCIAL CLEARINGHOUSE
200
REPORTS
AUDIT
$
300
USAGE CLEARINGHOUSE
METER
REPORTS
AUDIT
REPORTS
700
TRANSACTION AUTHORITY
REPORTS
AUDIT
RIGHTS & PERMISSIONS CLEARINGHOUSE
400
REPORTS
TEMPLATES
REPORTS
REPORTS
REPORTS
REPORTS
TEMPLATES
RIGHTS & PERMISSIONS CLEARINGHOUSE
400'
CERTIFYING AUTHORITY
500
600
SECURE DIRECTORY SERVICES

FIG. 16D

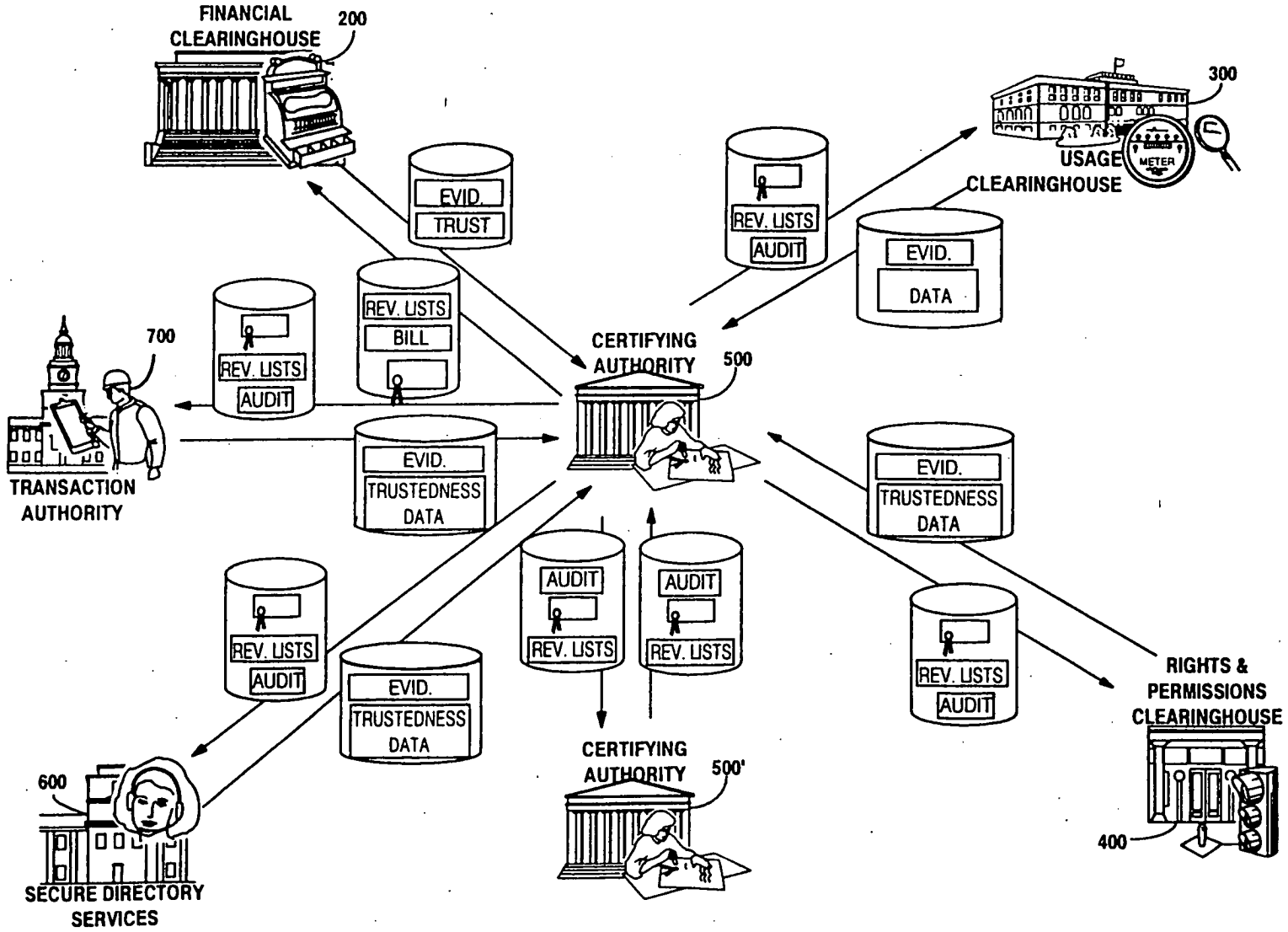

FINANCIAL CLEARINGHOUSE
200
EVID. TRUST
REV. LISTS AUDIT
300
USAGE CLEARINGHOUSE
METER
REV. LISTS AUDIT
EVID. DATA
REV. LISTS AUDIT
REV. LISTS BILL
700
TRANSACTION AUTHORITY
CERTIFYING AUTHORITY
500
EVID. TRUSTEDNESS DATA
EVID. TRUSTEDNESS DATA
AUDIT REV. LISTS
AUDIT REV. LISTS
REV. LISTS AUDIT
REV. LISTS AUDIT
EVID. TRUSTEDNESS DATA
RIGHTS & PERMISSIONS CLEARINGHOUSE
400
600
SECURE DIRECTORY SERVICES
CERTIFYING AUTHORITY
500'

FIG. 16E

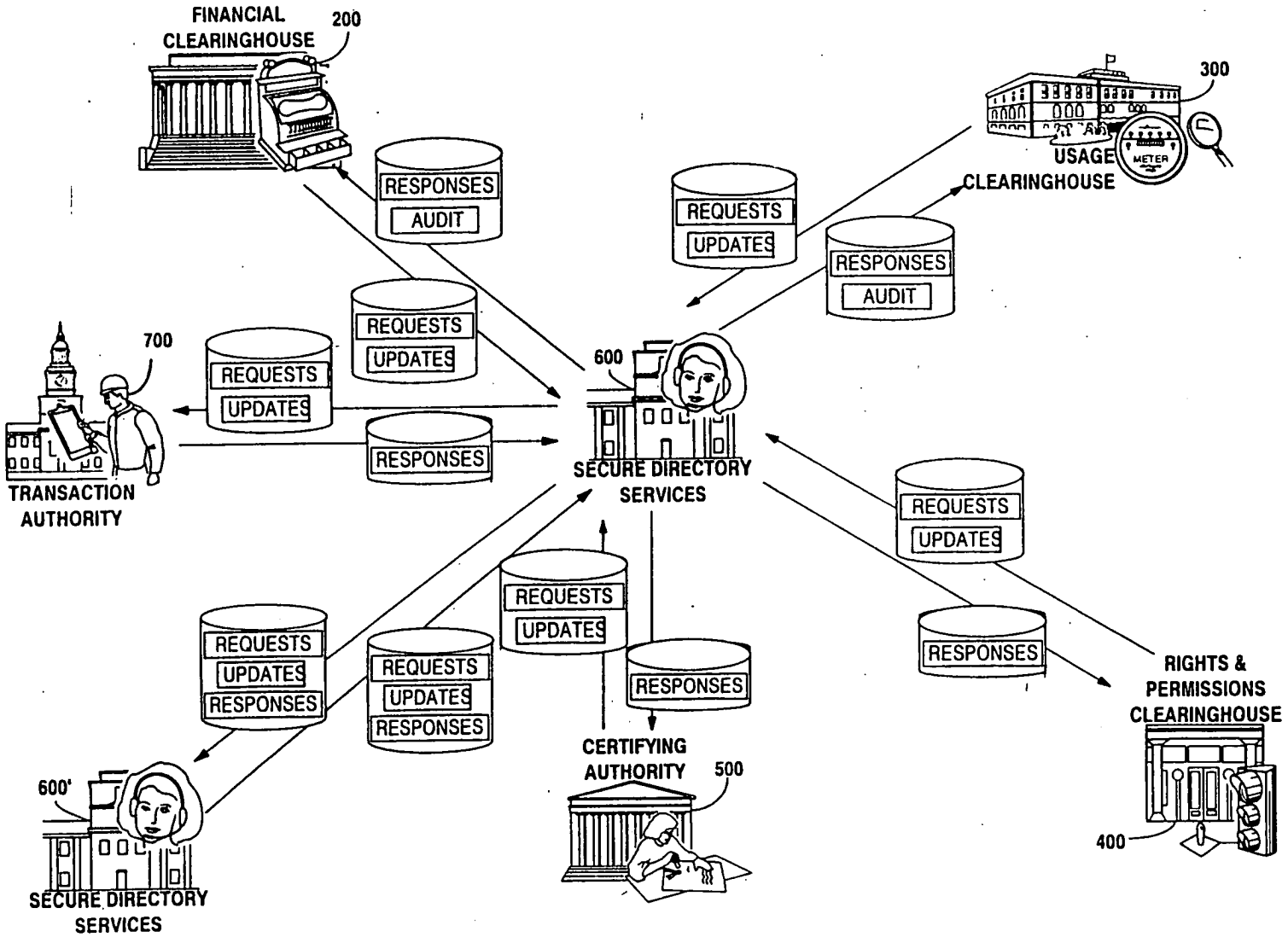
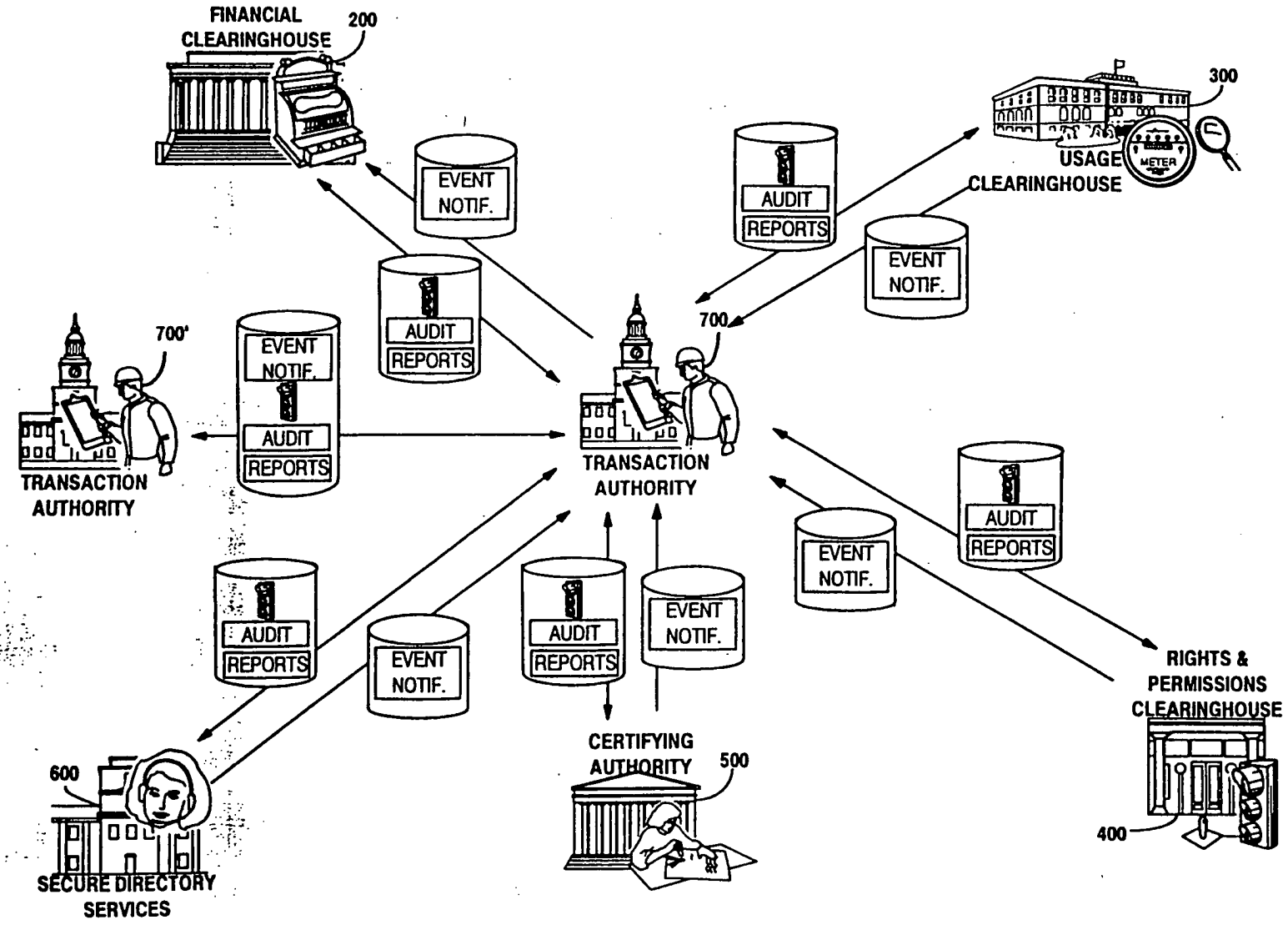

FINANCIAL CLEARINGHOUSE
200
RESPONSES
AUDIT
300
USAGE CLEARINGHOUSE
METER
REQUESTS
UPDATES
RESPONSES
AUDIT
700
REQUESTS
UPDATES
RESPONSES
600
TRANSACTION AUTHORITY
SECURE DIRECTORY SERVICES
REQUESTS
UPDATES
REQUESTS
UPDATES
RESPONSES
REQUESTS
UPDATES
RESPONSES
REQUESTS
UPDATES
RESPONSES
RIGHTS & PERMISSIONS CLEARINGHOUSE
600'
SECURE DIRECTORY SERVICES
CERTIFYING AUTHORITY
500
400

FIG. 16F


FINANCIAL CLEARINGHOUSE
200
EVENT NOTIF.
AUDIT REPORTS
300
USAGE CLEARINGHOUSE
METER
700'
TRANSACTION AUTHORITY
700
TRANSACTION AUTHORITY
RIGHTS & PERMISSIONS CLEARINGHOUSE
400
CERTIFYING AUTHORITY
500
600
SECURE DIRECTORY SERVICES

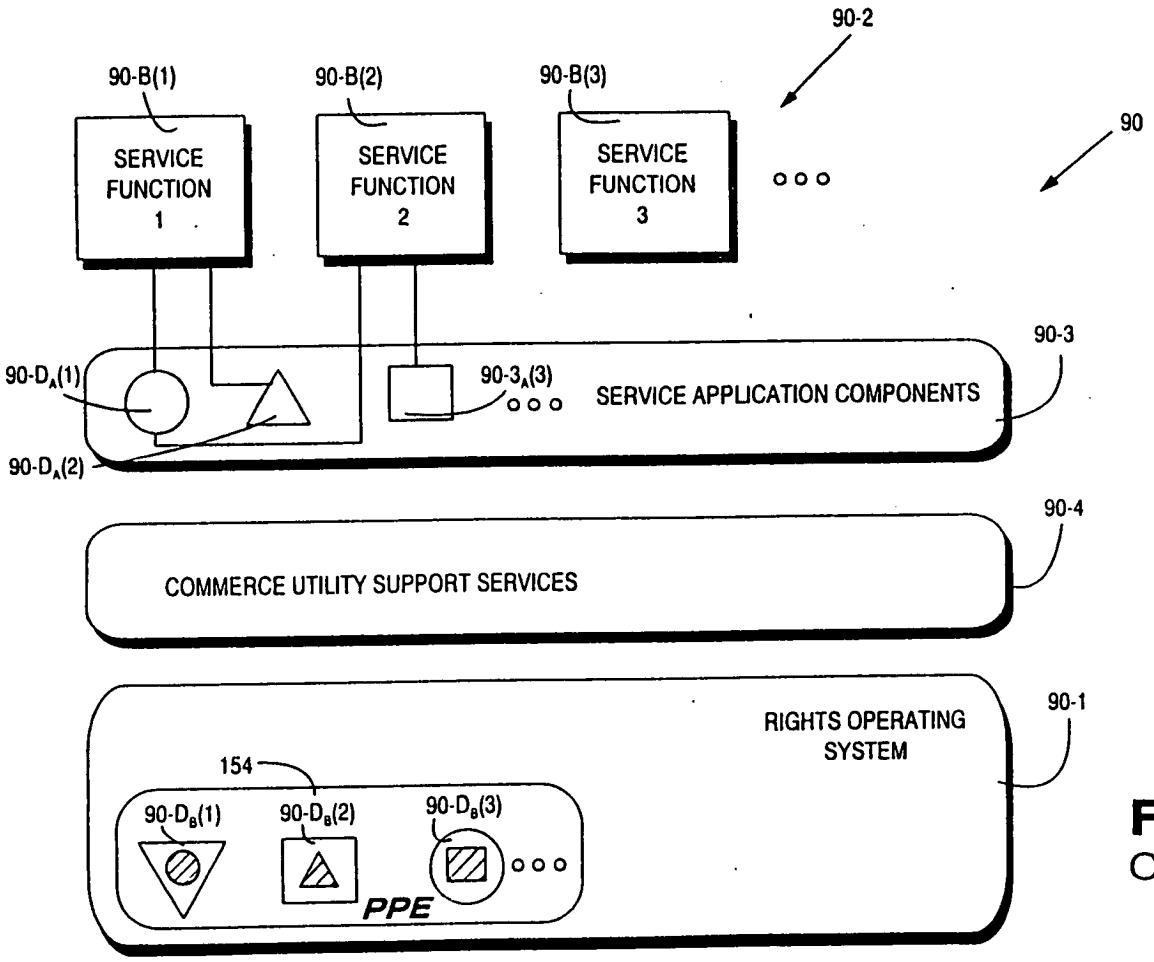


FIG. 17A
Commerce Utility System 90

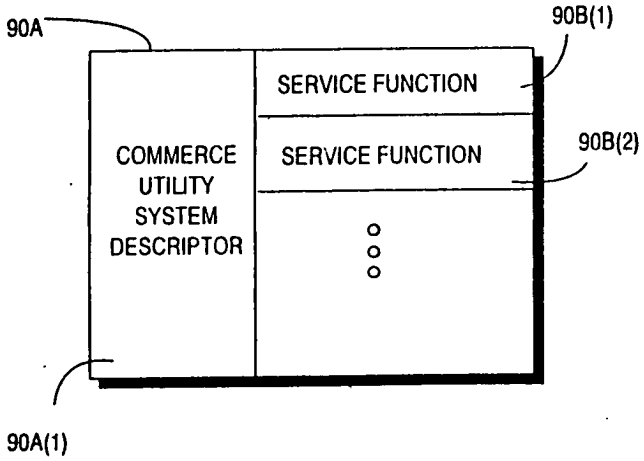


FIG. 17B

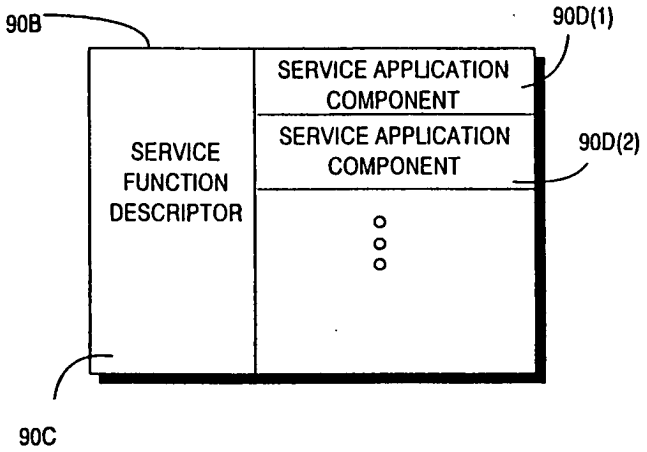


FIG. 17C

FIG. 17D-1

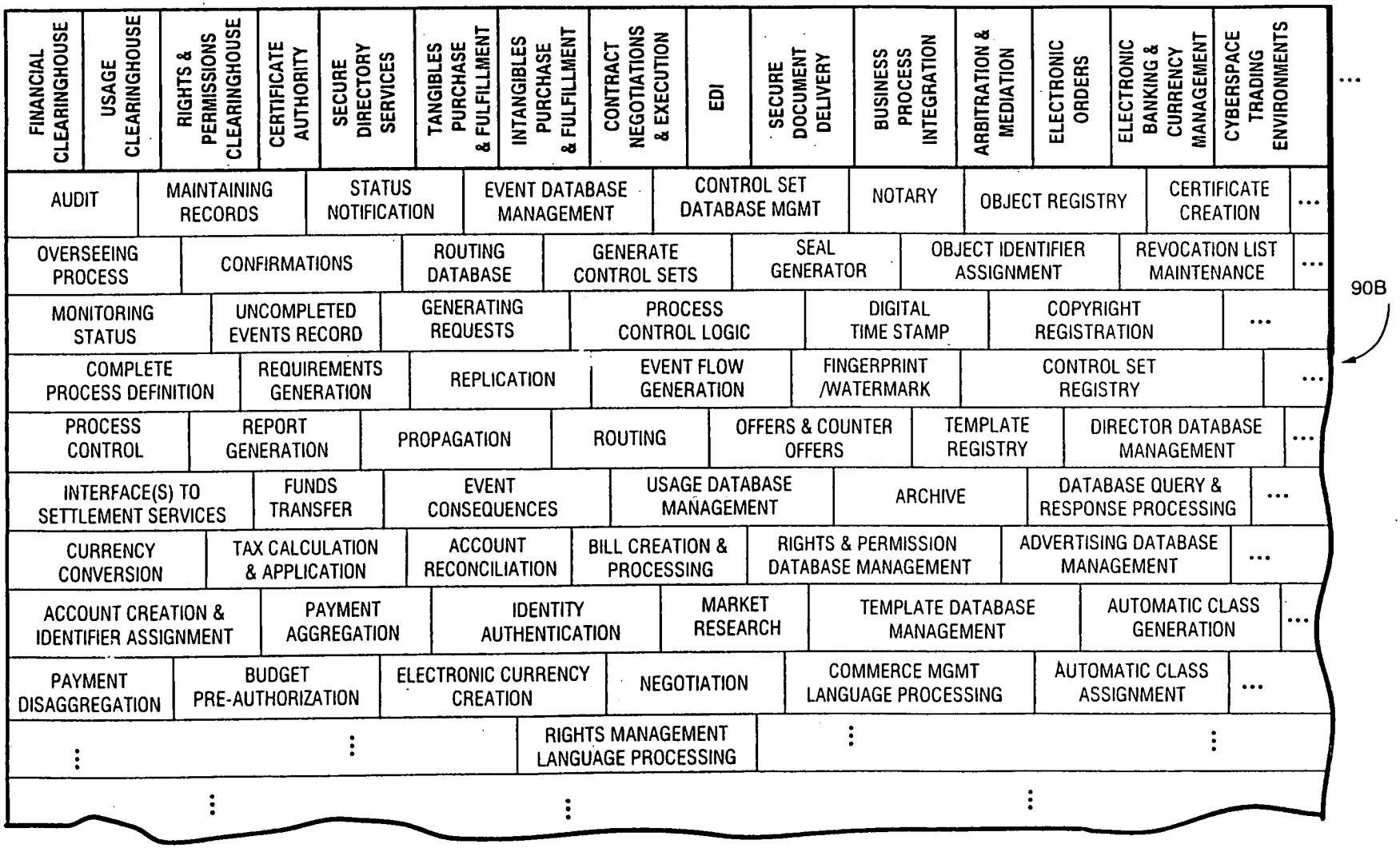

FINANCIAL CLEARINGHOUSE
USAGE CLEARINGHOUSE
RIGHTS & PERMISSIONS CLEARINGHOUSE
CERTIFICATE AUTHORITY
SECURE DIRECTORY SERVICES
TANGIBLES PURCHASE & FULFILLMENT
INTANGIBLES PURCHASE & FULFILLMENT
CONTRACT NEGOTIATIONS & EXECUTION
EDI
SECURE DOCUMENT DELIVERY
BUSINESS PROCESS INTEGRATION
ARBITRATION & MEDIATION
ELECTRONIC ORDERS
ELECTRONIC BANKING & CURRENCY MANAGEMENT
CYBERSPACE TRADING ENVIRONMENTS
AUDIT
MAINTAINING RECORDS
STATUS NOTIFICATION
EVENT DATABASE MANAGEMENT
CONTROL SET DATABASE MGMT
NOTARY
OBJECT REGISTRY
CERTIFICATE CREATION
OVERSEEING PROCESS
CONFIRMATIONS
ROUTING DATABASE
GENERATE CONTROL SETS
SEAL GENERATOR
OBJECT IDENTIFIER ASSIGNMENT
REVOCATION LIST MAINTENANCE
MONITORING STATUS
UNCOMPLETED EVENTS RECORD
GENERATING REQUESTS
PROCESS CONTROL LOGIC
DIGITAL TIME STAMP
COPYRIGHT REGISTRATION
COMPLETE PROCESS DEFINITION
REQUIREMENTS GENERATION
REPLICATION
EVENT FLOW GENERATION
FINGERPRINT /WATERMARK
CONTROL SET REGISTRY
PROCESS CONTROL
REPORT GENERATION
PROPAGATION
ROUTING
OFFERS & COUNTER OFFERS
TEMPLATE REGISTRY
DIRECTOR DATABASE MANAGEMENT
INTERFACE(S) TO SETTLEMENT SERVICES
FUNDS TRANSFER
EVENT CONSEQUENCES
USAGE DATABASE MANAGEMENT
ARCHIVE
DATABASE QUERY & RESPONSE PROCESSING
CURRENCY CONVERSION
TAX CALCULATION & APPLICATION
ACCOUNT RECONCILIATION
BILL CREATION & PROCESSING
RIGHTS & PERMISSION DATABASE MANAGEMENT
ADVERTISING DATABASE MANAGEMENT
ACCOUNT CREATION & IDENTIFIER ASSIGNMENT
PAYMENT AGGREGATION
IDENTITY AUTHENTICATION
MARKET RESEARCH
TEMPLATE DATABASE MANAGEMENT
AUTOMATIC CLASS GENERATION
PAYMENT DISAGGREGATION
BUDGET PRE-AUTHORIZATION
ELECTRONIC CURRENCY CREATION
NEGOTIATION
COMMERCE MGMT LANGUAGE PROCESSING
AUTOMATIC CLASS ASSIGNMENT
RIGHTS MANAGEMENT LANGUAGE PROCESSING
90B

FIG. 17D-2

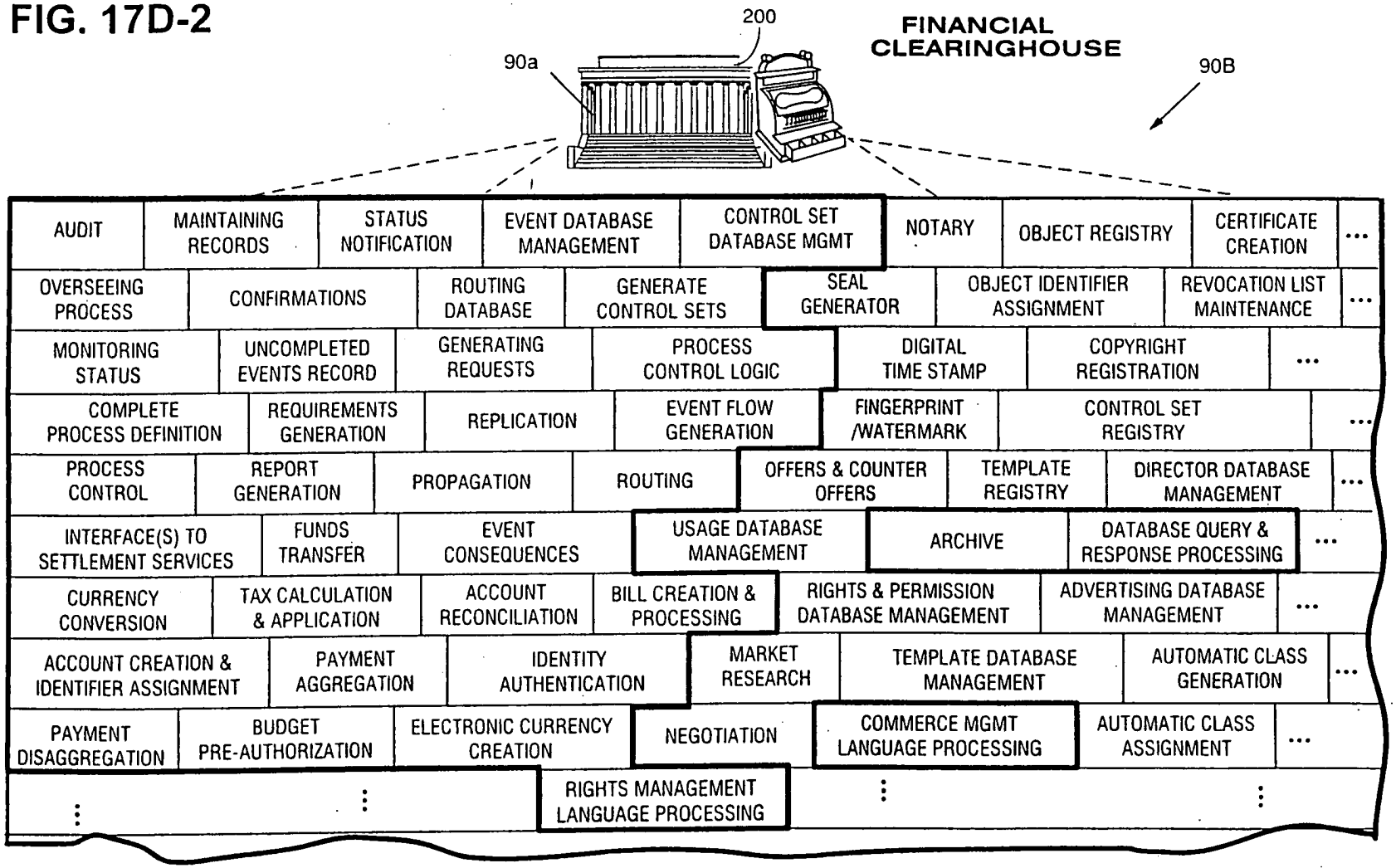
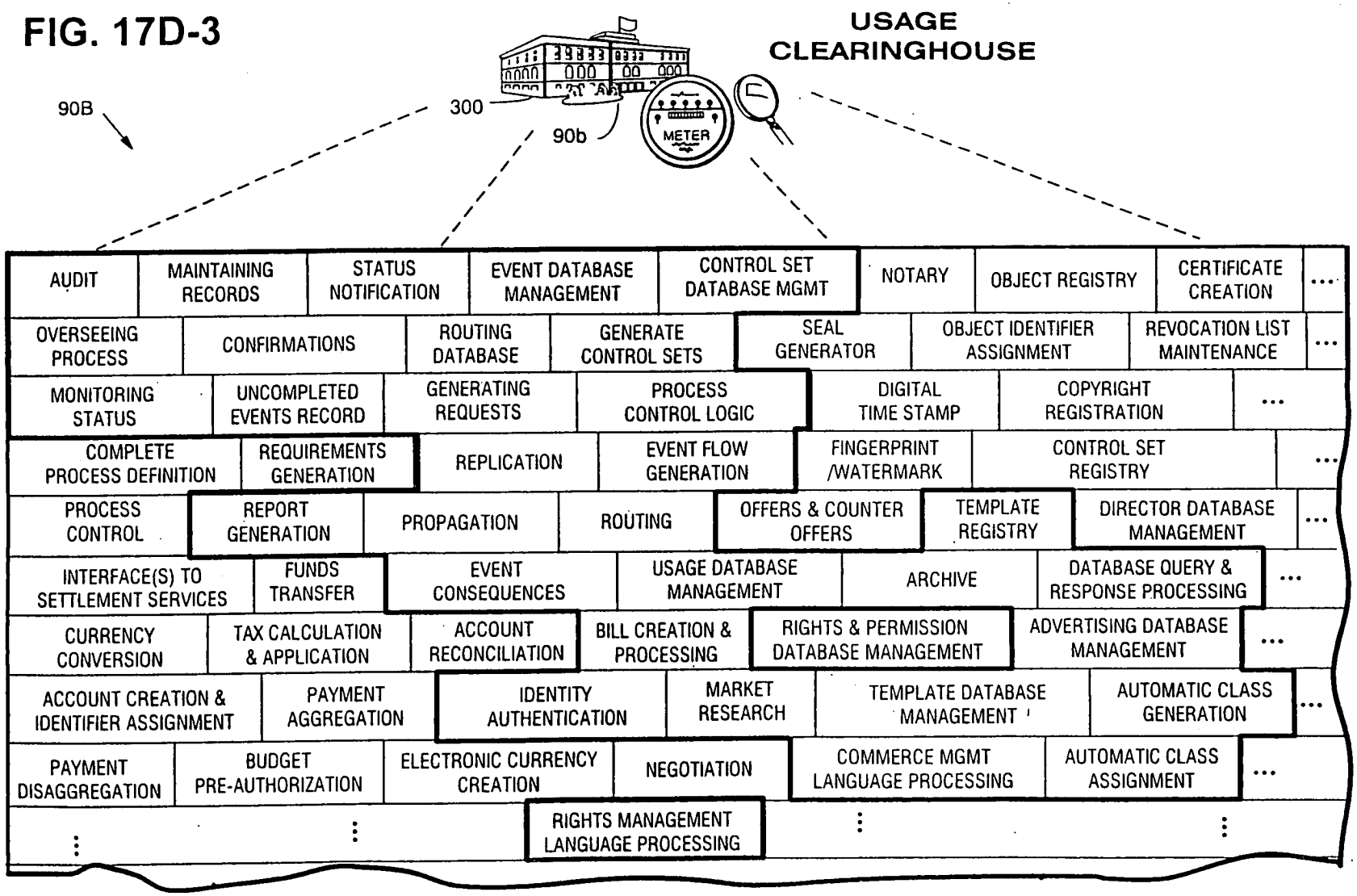

200
90a
FINANCIAL CLEARINGHOUSE
90B
AUDIT
MAINTAINING RECORDS
STATUS NOTIFICATION
EVENT DATABASE MANAGEMENT
CONTROL SET DATABASE MGMT
NOTARY
OBJECT REGISTRY
CERTIFICATE CREATION
OVERSEEING PROCESS
CONFIRMATIONS
ROUTING DATABASE
GENERATE CONTROL SETS
SEAL GENERATOR
OBJECT IDENTIFIER ASSIGNMENT
REVOCATION LIST MAINTENANCE
MONITORING STATUS
UNCOMPLETED EVENTS RECORD
GENERATING REQUESTS
PROCESS CONTROL LOGIC
DIGITAL TIME STAMP
COPYRIGHT REGISTRATION
COMPLETE PROCESS DEFINITION
REQUIREMENTS GENERATION
REPLICATION
EVENT FLOW GENERATION
FINGERPRINT /WATERMARK
CONTROL SET REGISTRY
PROCESS CONTROL
REPORT GENERATION
PROPAGATION
ROUTING
OFFERS & COUNTER OFFERS
TEMPLATE REGISTRY
DIRECTOR DATABASE MANAGEMENT
INTERFACE(S) TO SETTLEMENT SERVICES
FUNDS TRANSFER
EVENT CONSEQUENCES
USAGE DATABASE MANAGEMENT
ARCHIVE
DATABASE QUERY & RESPONSE PROCESSING
CURRENCY CONVERSION
TAX CALCULATION & APPLICATION
ACCOUNT RECONCILIATION
BILL CREATION & PROCESSING
RIGHTS & PERMISSION DATABASE MANAGEMENT
ADVERTISING DATABASE MANAGEMENT
ACCOUNT CREATION & IDENTIFIER ASSIGNMENT
PAYMENT AGGREGATION
IDENTITY AUTHENTICATION
MARKET RESEARCH
TEMPLATE DATABASE MANAGEMENT
AUTOMATIC CLASS GENERATION
PAYMENT DISAGGREGATION
BUDGET PRE-AUTHORIZATION
ELECTRONIC CURRENCY CREATION
NEGOTIATION
COMMERCE MGMT LANGUAGE PROCESSING
AUTOMATIC CLASS ASSIGNMENT
RIGHTS MANAGEMENT LANGUAGE PROCESSING

FIG. 17D-3


USAGE CLEARINGHOUSE
90B
300
90b
METER
AUDIT
MAINTAINING RECORDS
STATUS NOTIFICATION
EVENT DATABASE MANAGEMENT
CONTROL SET DATABASE MGMT
NOTARY
OBJECT REGISTRY
CERTIFICATE CREATION
OVERSEEING PROCESS
CONFIRMATIONS
ROUTING DATABASE
GENERATE CONTROL SETS
SEAL GENERATOR
OBJECT IDENTIFIER ASSIGNMENT
REVOCATION LIST MAINTENANCE
MONITORING STATUS
UNCOMPLETED EVENTS RECORD
GENERATING REQUESTS
PROCESS CONTROL LOGIC
DIGITAL TIME STAMP
COPYRIGHT REGISTRATION
COMPLETE PROCESS DEFINITION
REQUIREMENTS GENERATION
REPLICATION
EVENT FLOW GENERATION
FINGERPRINT /WATERMARK
CONTROL SET REGISTRY
PROCESS CONTROL
REPORT GENERATION
PROPAGATION
ROUTING
OFFERS & COUNTER OFFERS
TEMPLATE REGISTRY
DIRECTOR DATABASE MANAGEMENT
INTERFACE(S) TO SETTLEMENT SERVICES
FUNDS TRANSFER
EVENT CONSEQUENCES
USAGE DATABASE MANAGEMENT
ARCHIVE
DATABASE QUERY & RESPONSE PROCESSING
CURRENCY CONVERSION
TAX CALCULATION & APPLICATION
ACCOUNT RECONCILIATION
BILL CREATION & PROCESSING
RIGHTS & PERMISSION DATABASE MANAGEMENT
ADVERTISING DATABASE MANAGEMENT
ACCOUNT CREATION & IDENTIFIER ASSIGNMENT
PAYMENT AGGREGATION
IDENTITY AUTHENTICATION
MARKET RESEARCH
TEMPLATE DATABASE MANAGEMENT
AUTOMATIC CLASS GENERATION
PAYMENT DISAGGREGATION
BUDGET PRE-AUTHORIZATION
ELECTRONIC CURRENCY CREATION
NEGOTIATION
COMMERCE MGMT LANGUAGE PROCESSING
AUTOMATIC CLASS ASSIGNMENT
RIGHTS MANAGEMENT LANGUAGE PROCESSING

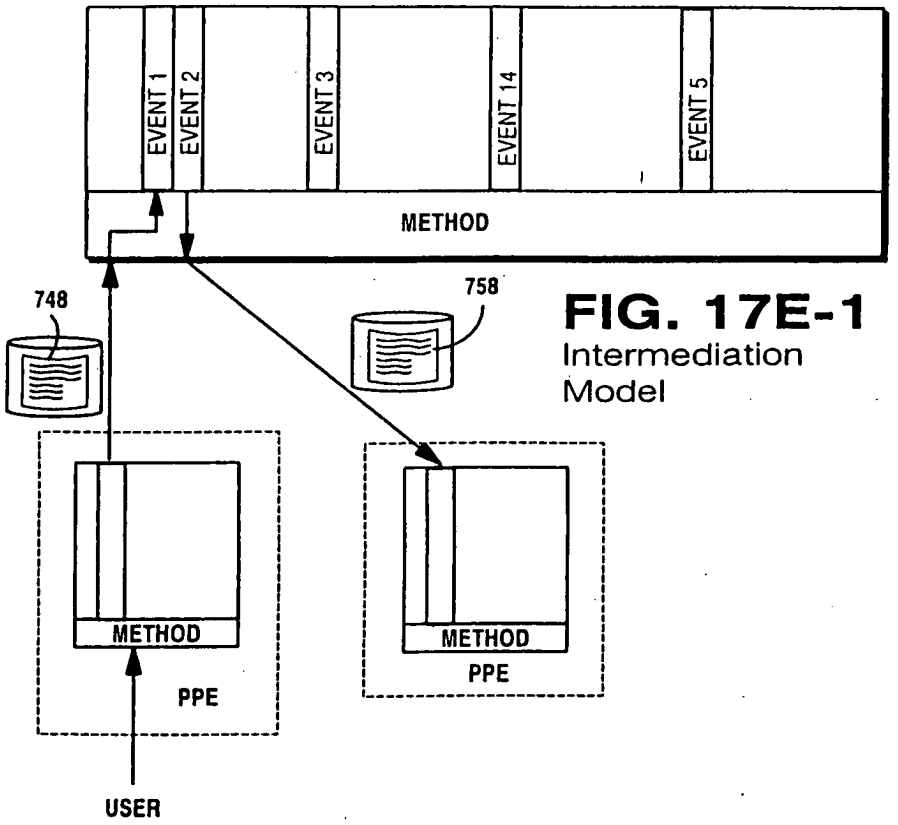


FIG. 17E-1
Intermediation Model

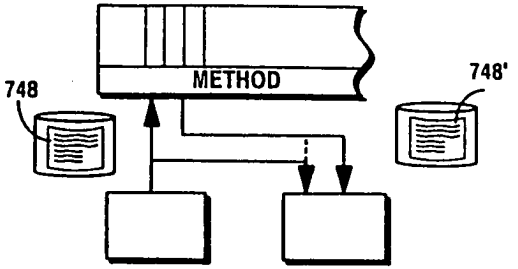


FIG. 17E-2
Authentication to Proceed

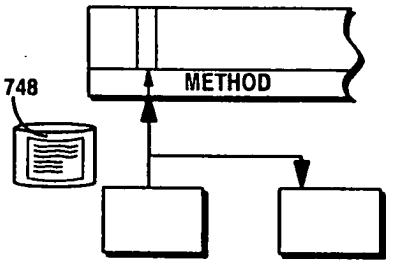


FIG. 17E-3
Notification Model

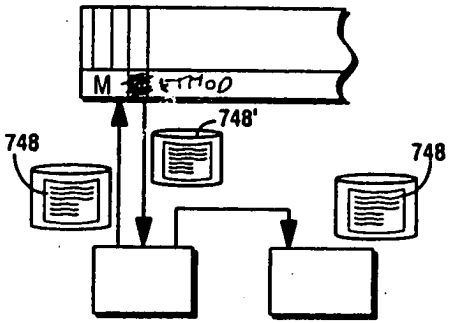


FIG. 17E-4
Prior Authorization Model

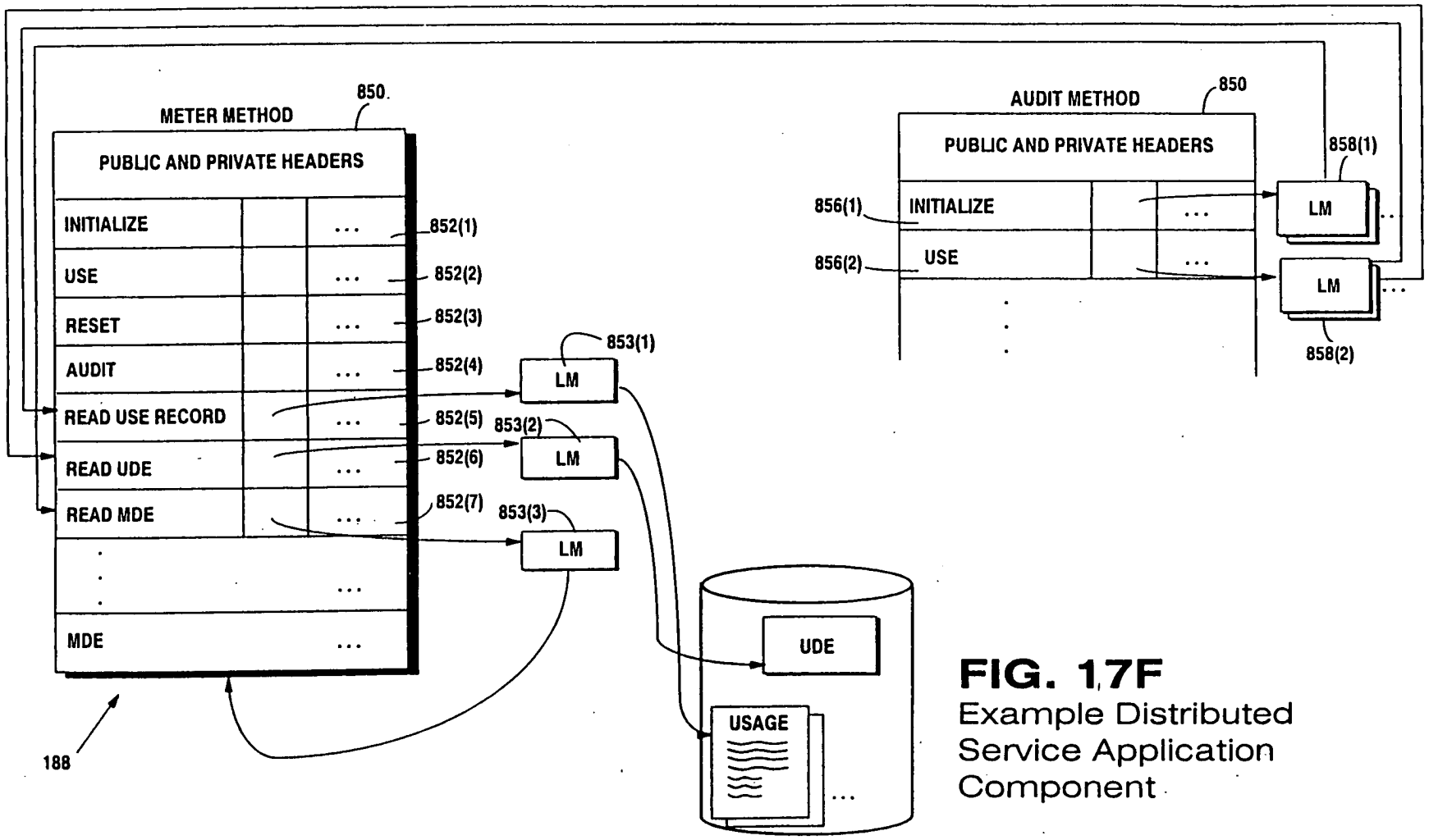


FIG. 17F
Example Distributed Service Application Component

FIG. 18
Example Financial Clearinghouse

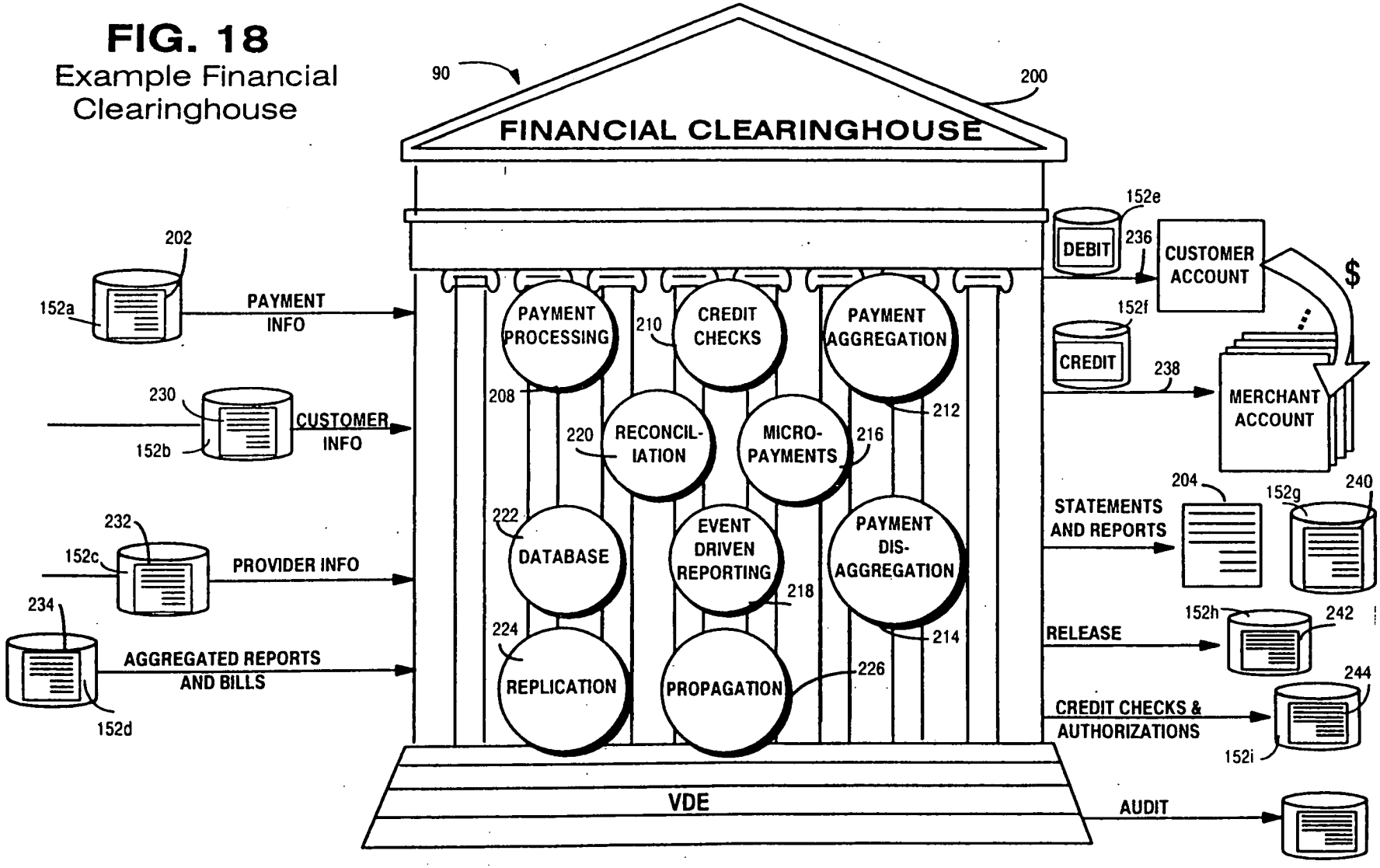
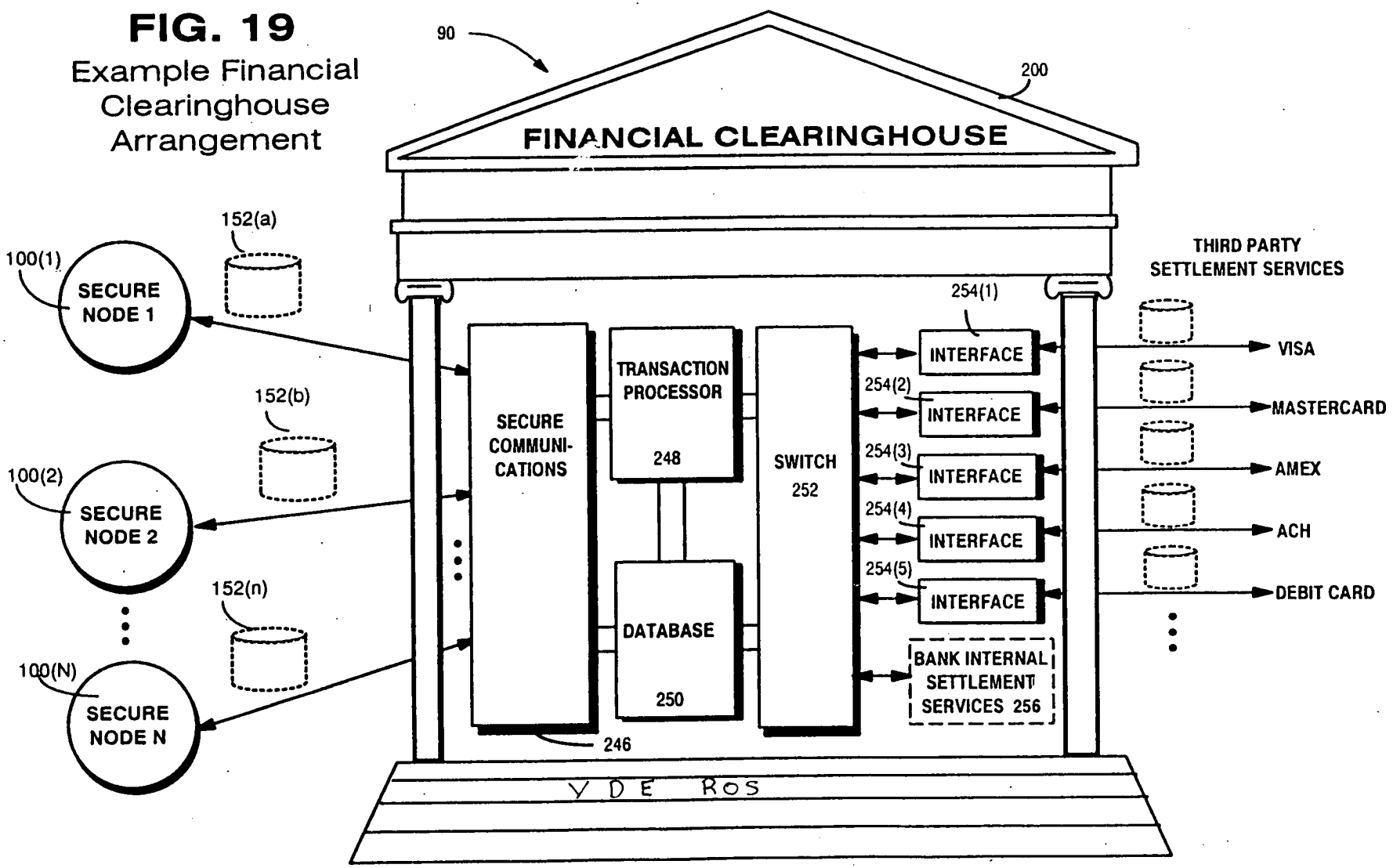


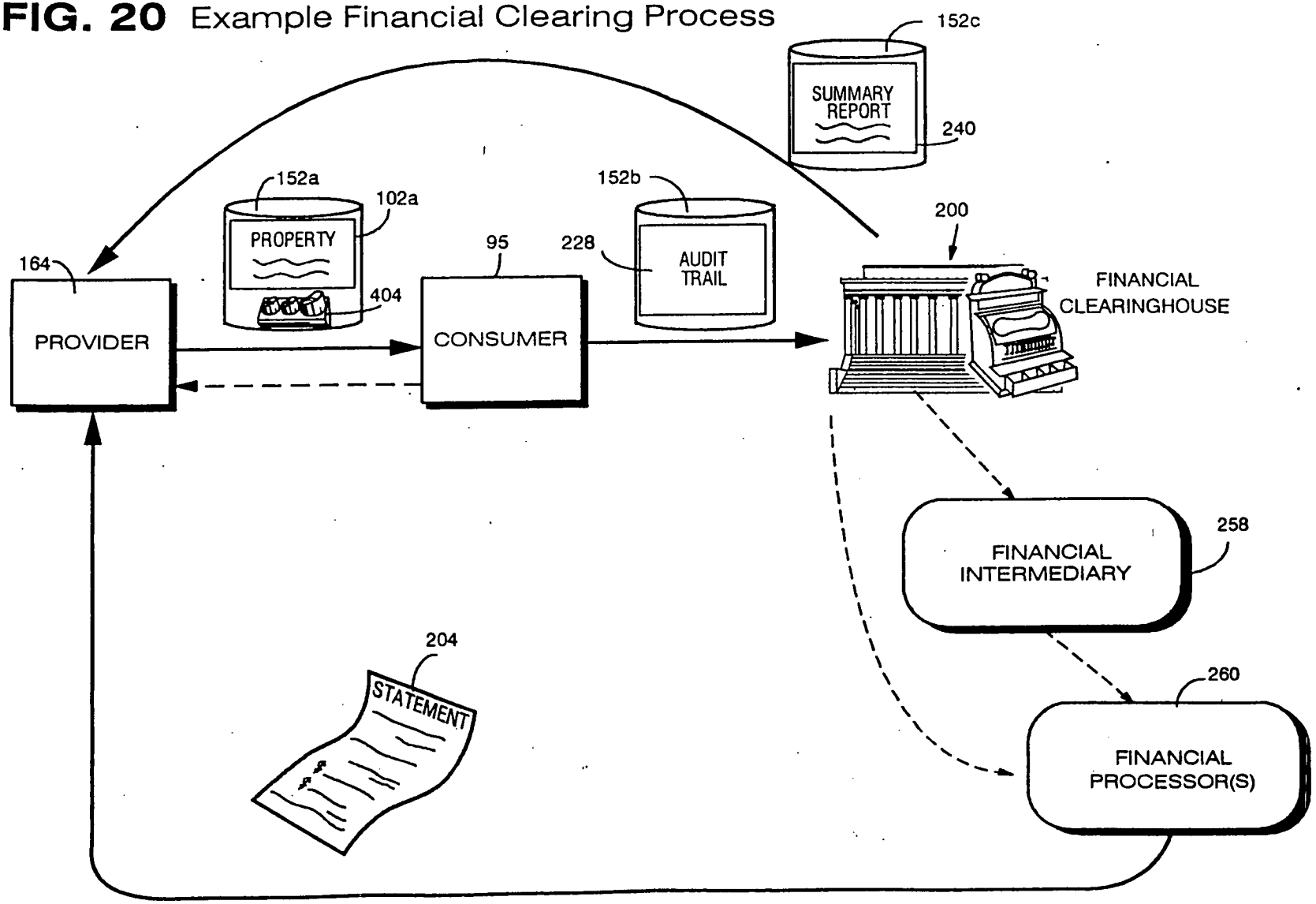
FIG. 19

Example Financial Clearinghouse Arrangement



Docket 39960

FIG. 20 Example Financial Clearing Process



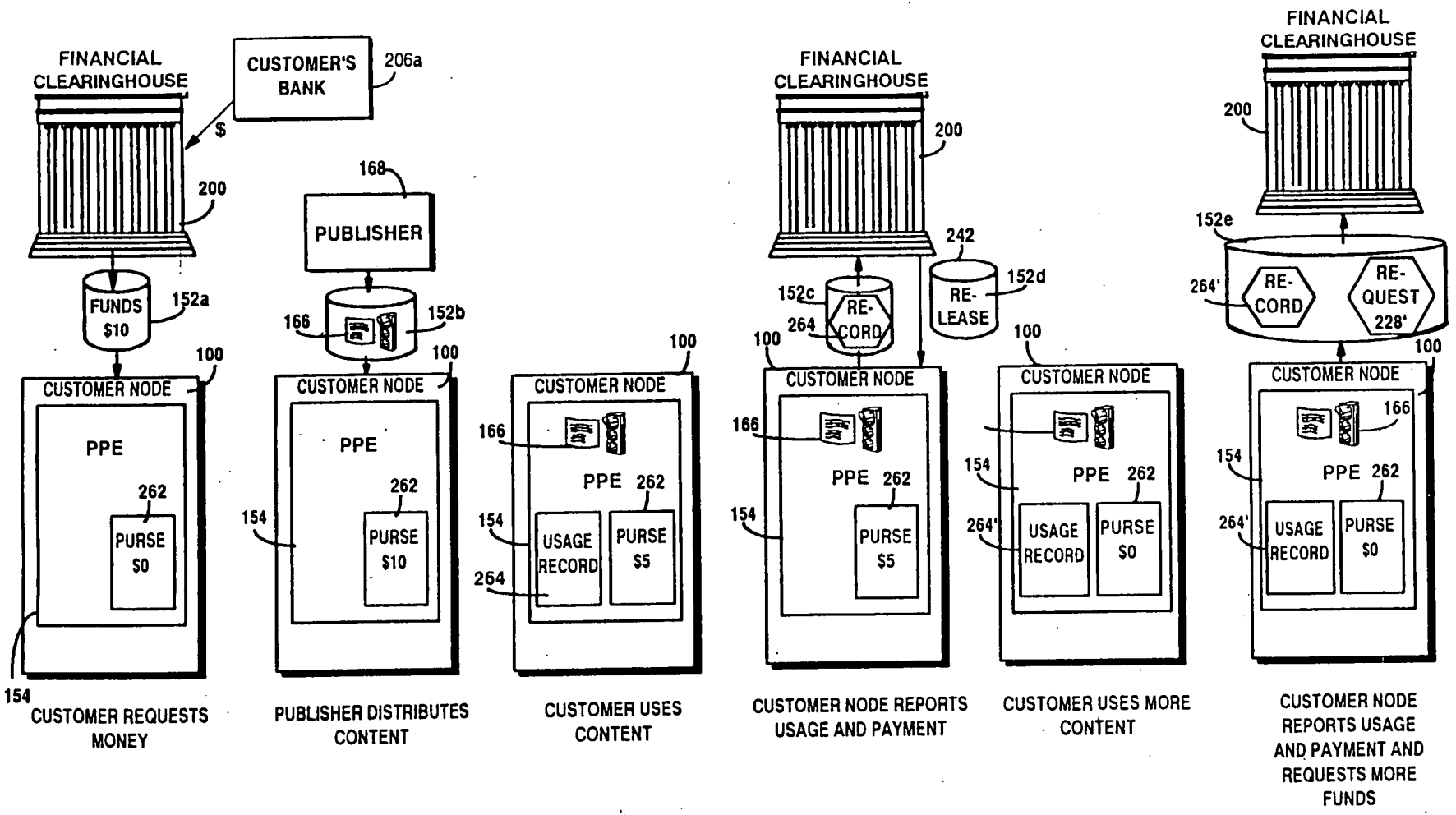


FIG. 20A **FIG. 20B** **FIG. 20C** **FIG. 20D** **FIG. 20E** **FIG. 20F**

EXAMPLE FINANCIAL CLEARING ACTIVITIES

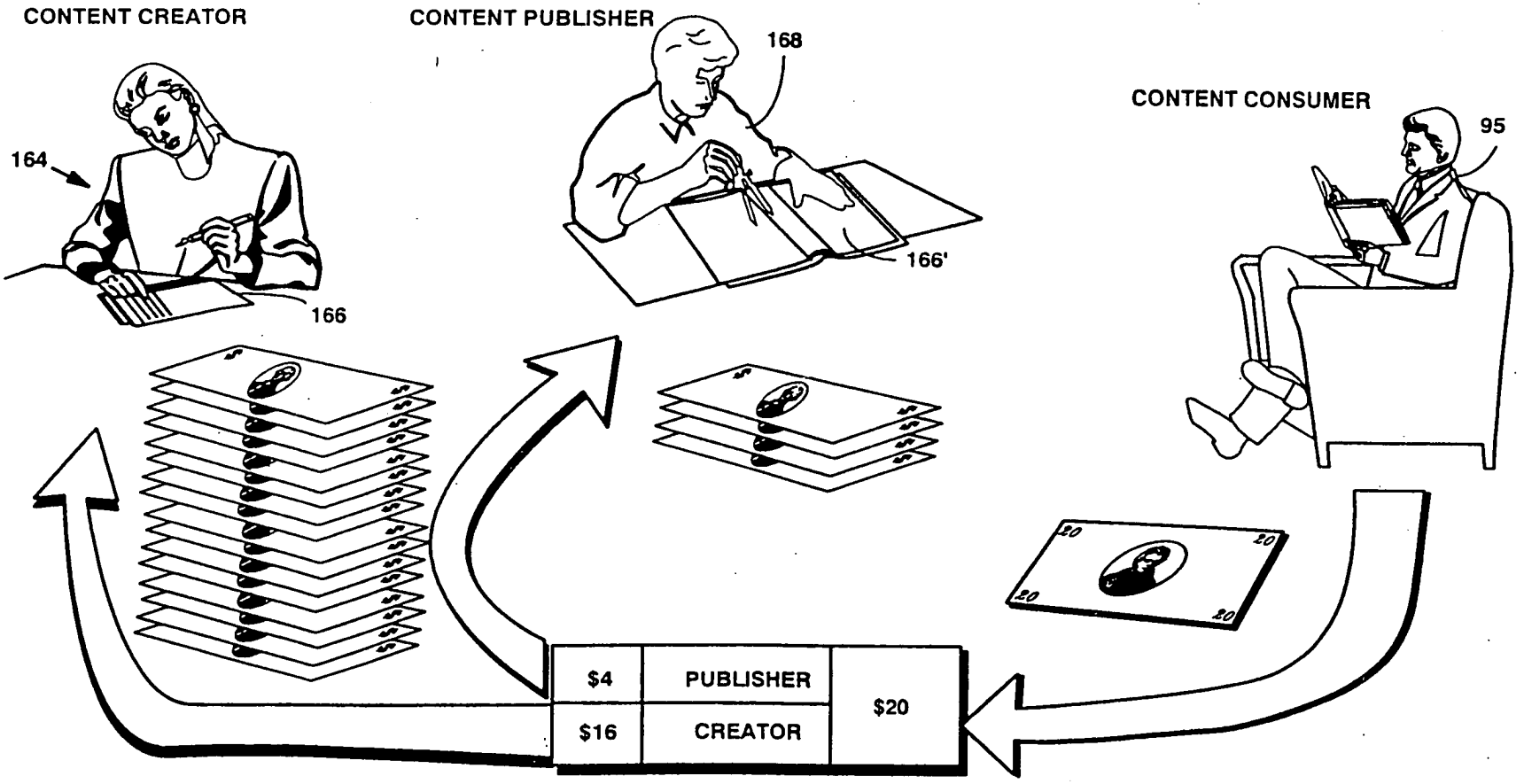


FIG. 21 Example Payment Disaggregation

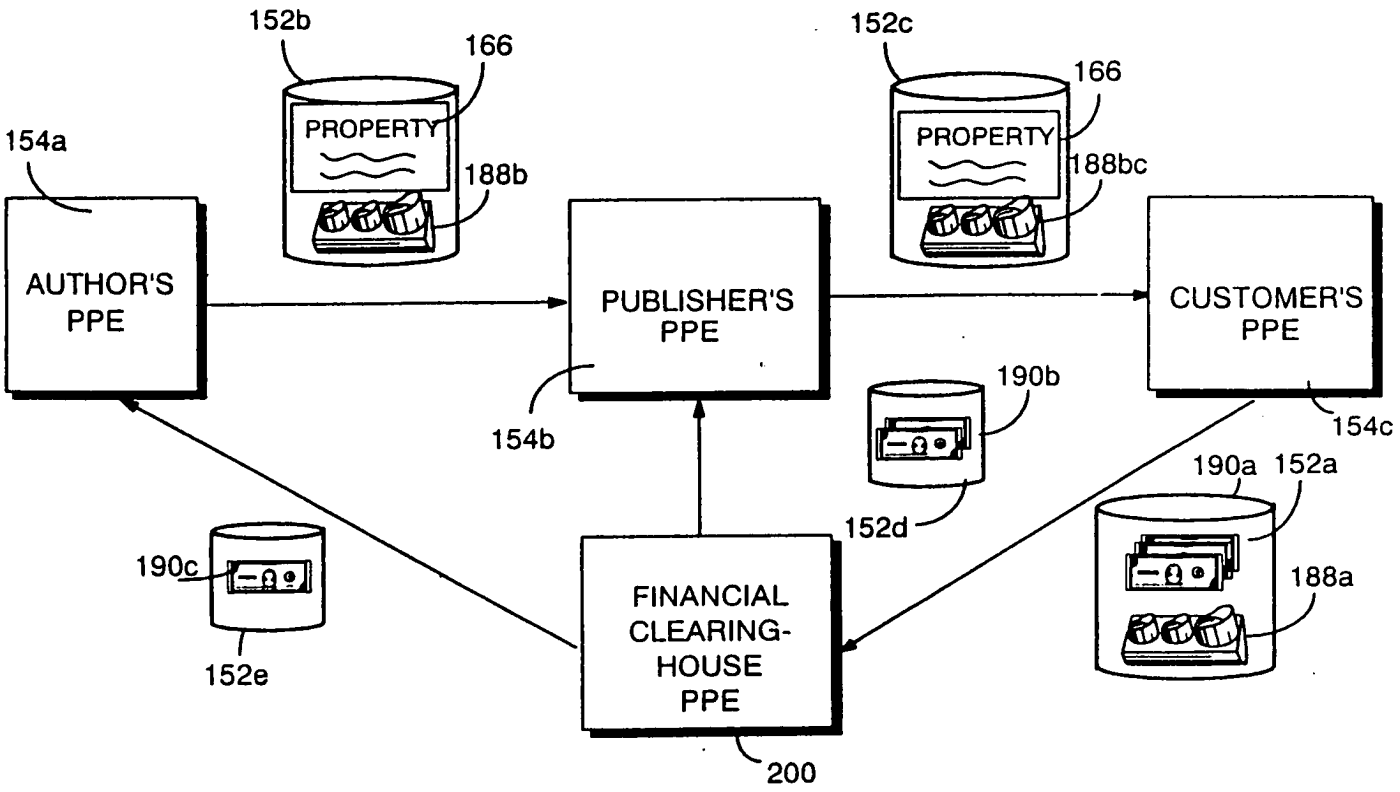


FIG. 22 PAYMENT AND REDISTRIBUTION EXAMPLE

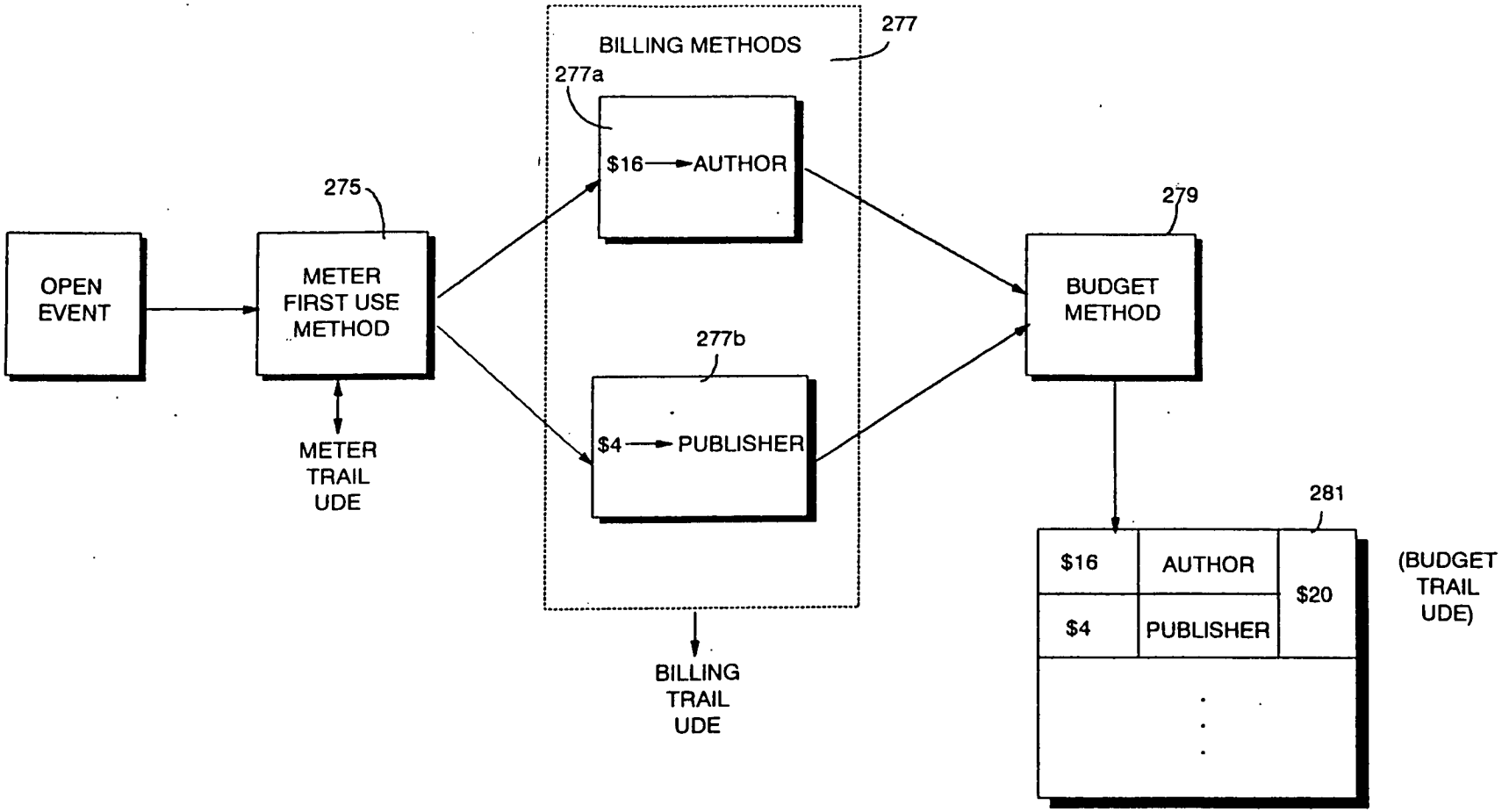


FIG. 22A User Node Disaggregation Example

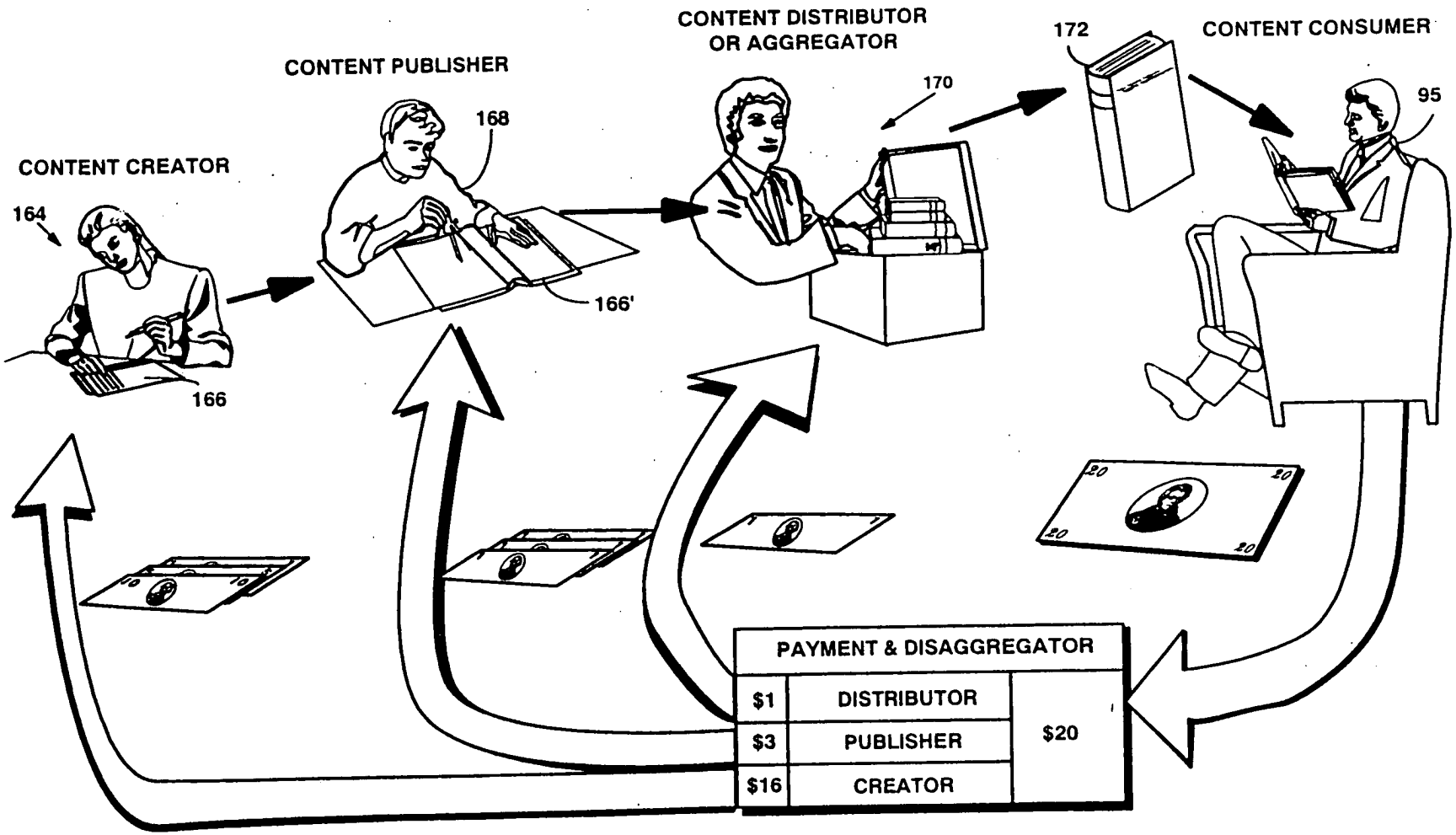
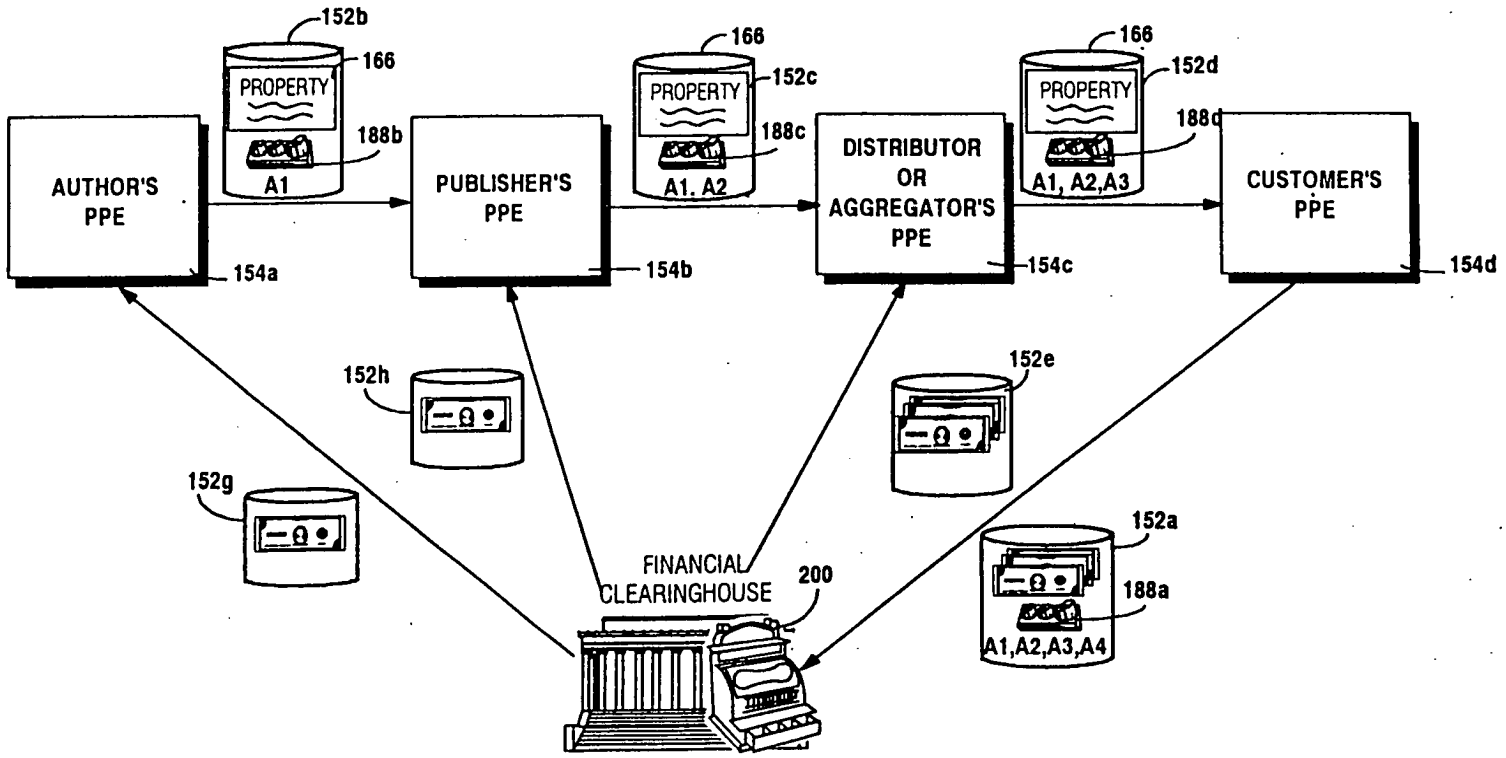


FIG. 23 Payment Disaggregation

FIG. 24

EXAMPLE PAYMENT AND REDISTRIBUTION SCENARIO



DOCKET SEARCH

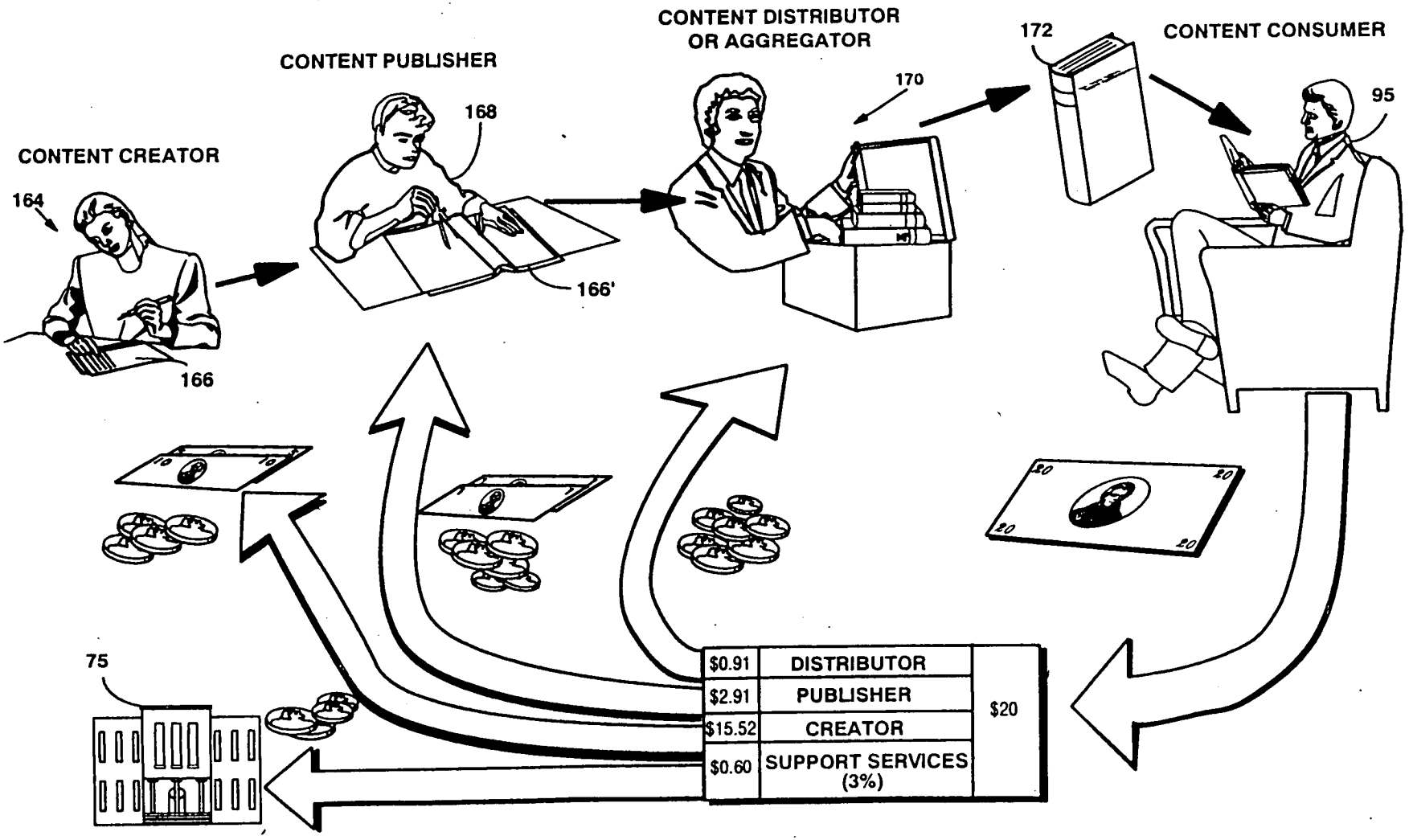


FIG. 25 Example Payment Disaggregation

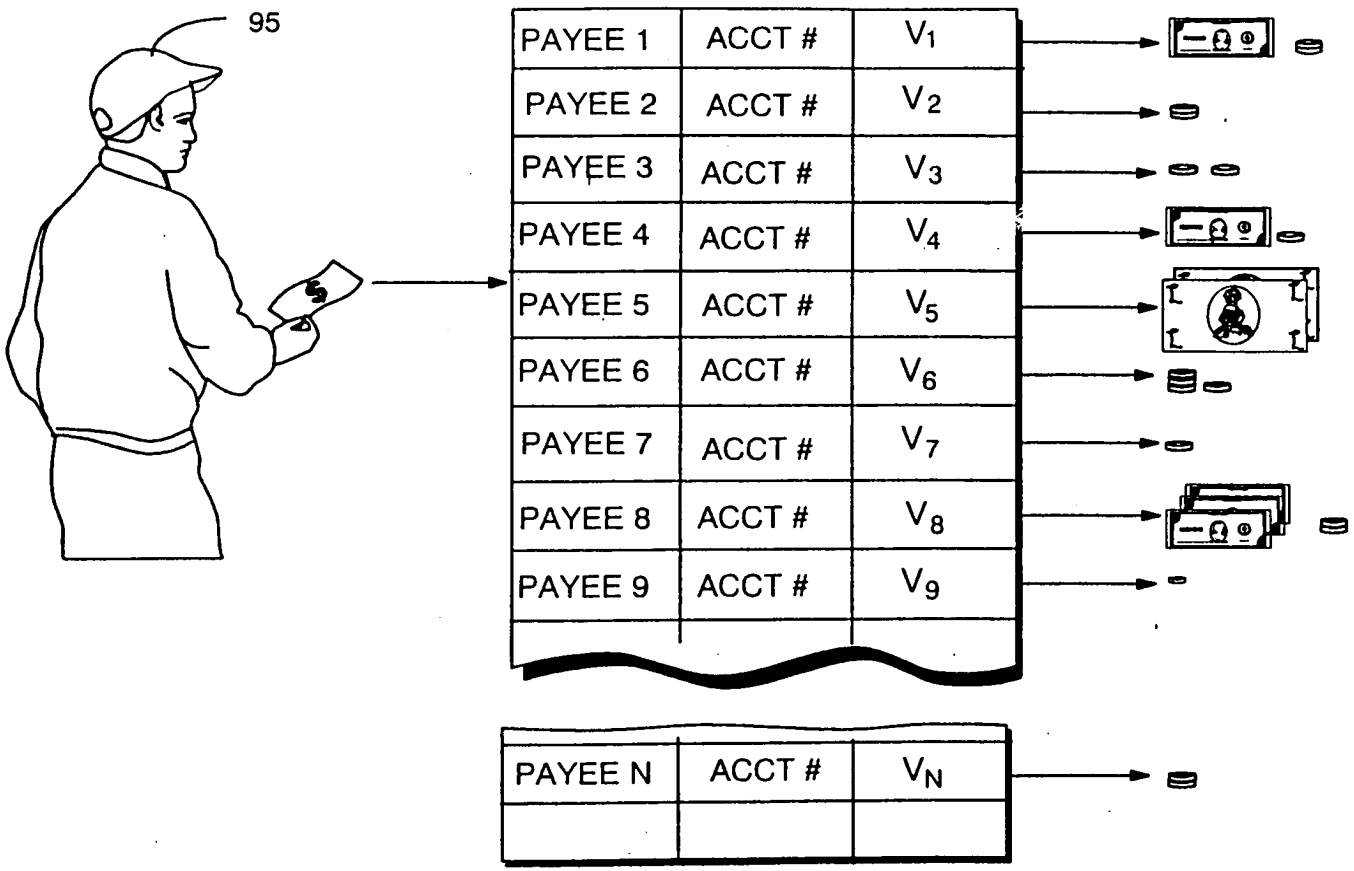


FIG. 26 PAYMENT DISAGREGGATION

FIG. 27

Example Payment and Redistribution Scenario

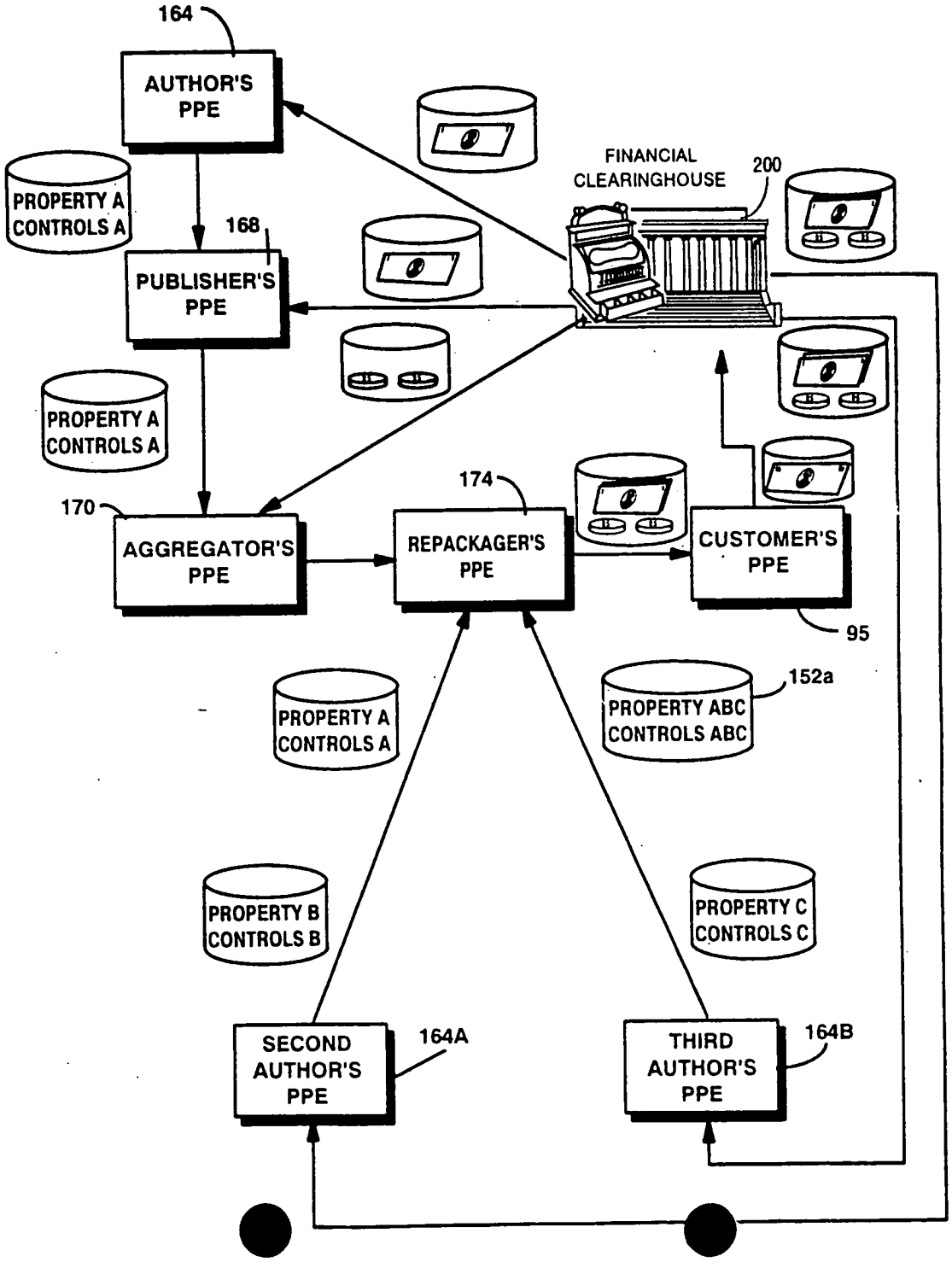
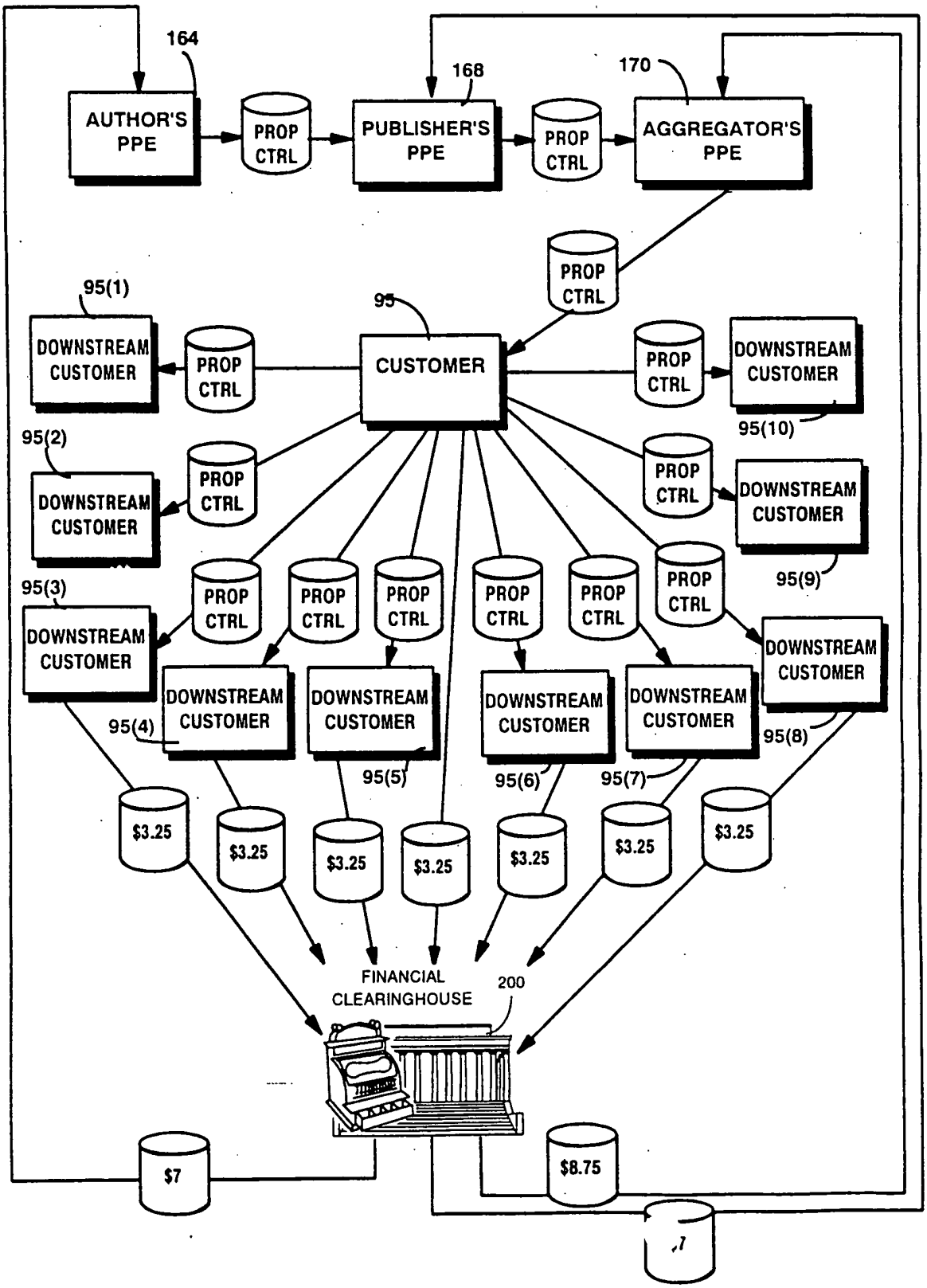


FIG. 28 Example Super Distribution



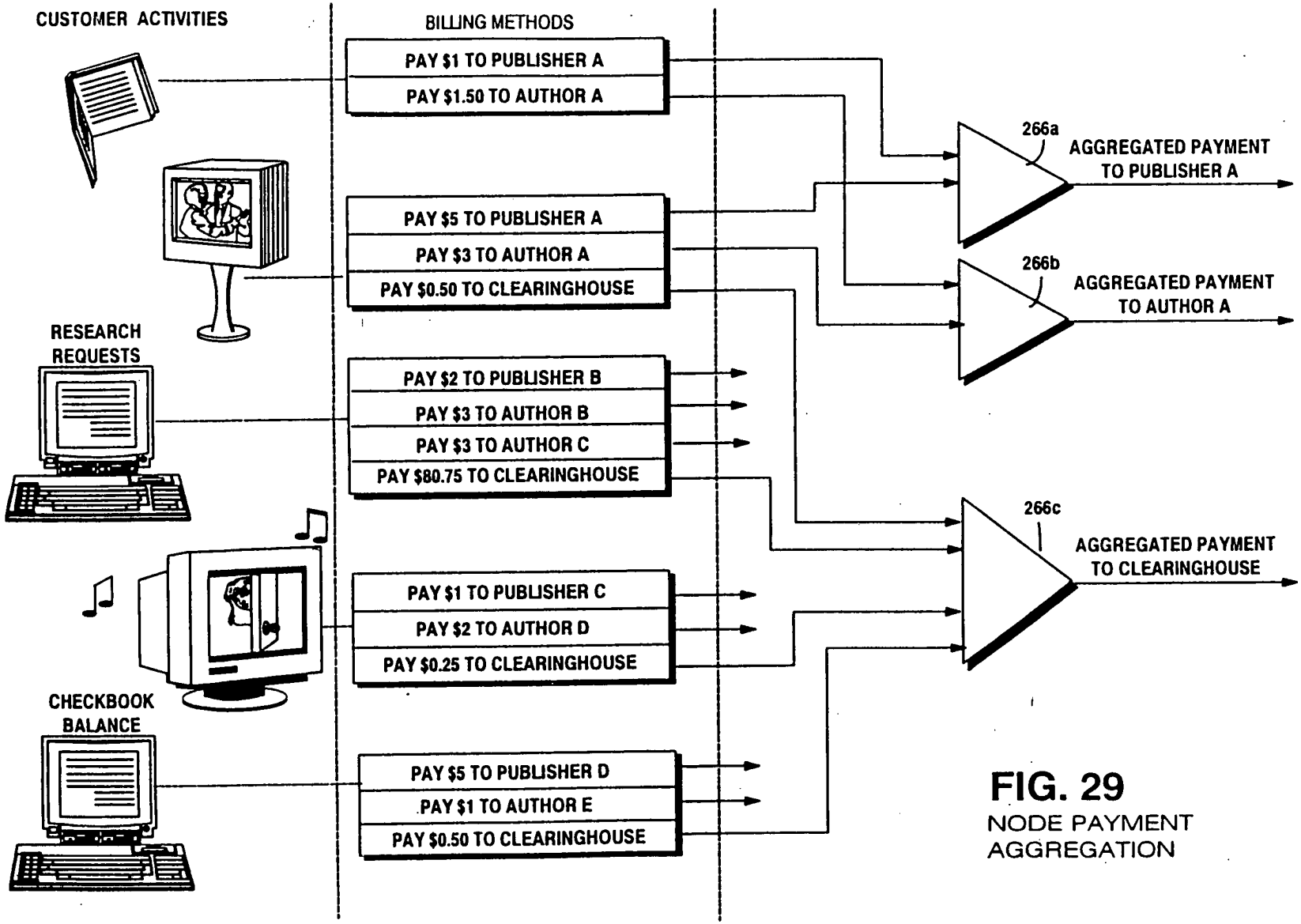


FIG. 29
NODE PAYMENT AGGREGATION

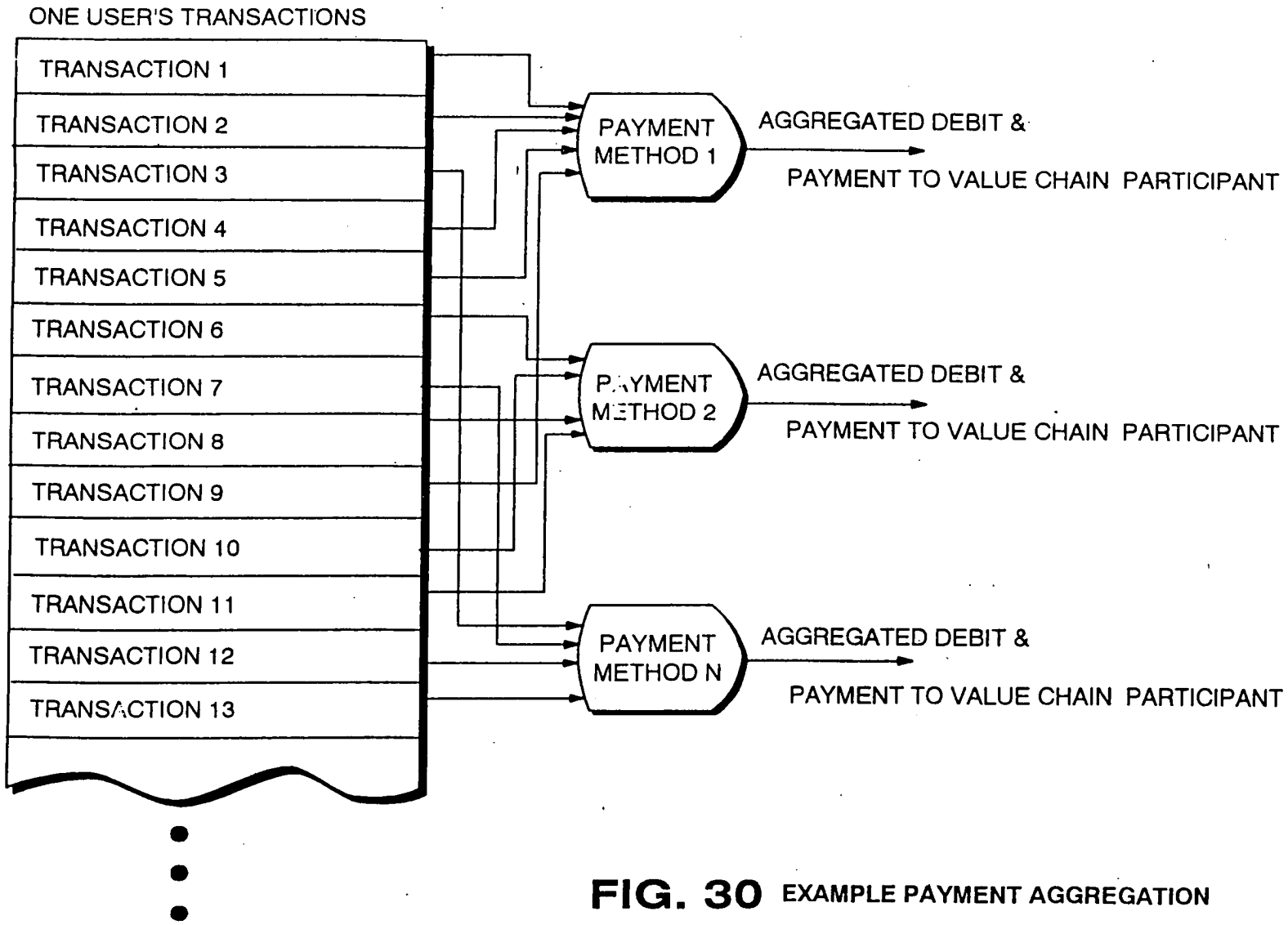


FIG. 30 EXAMPLE PAYMENT AGGREGATION

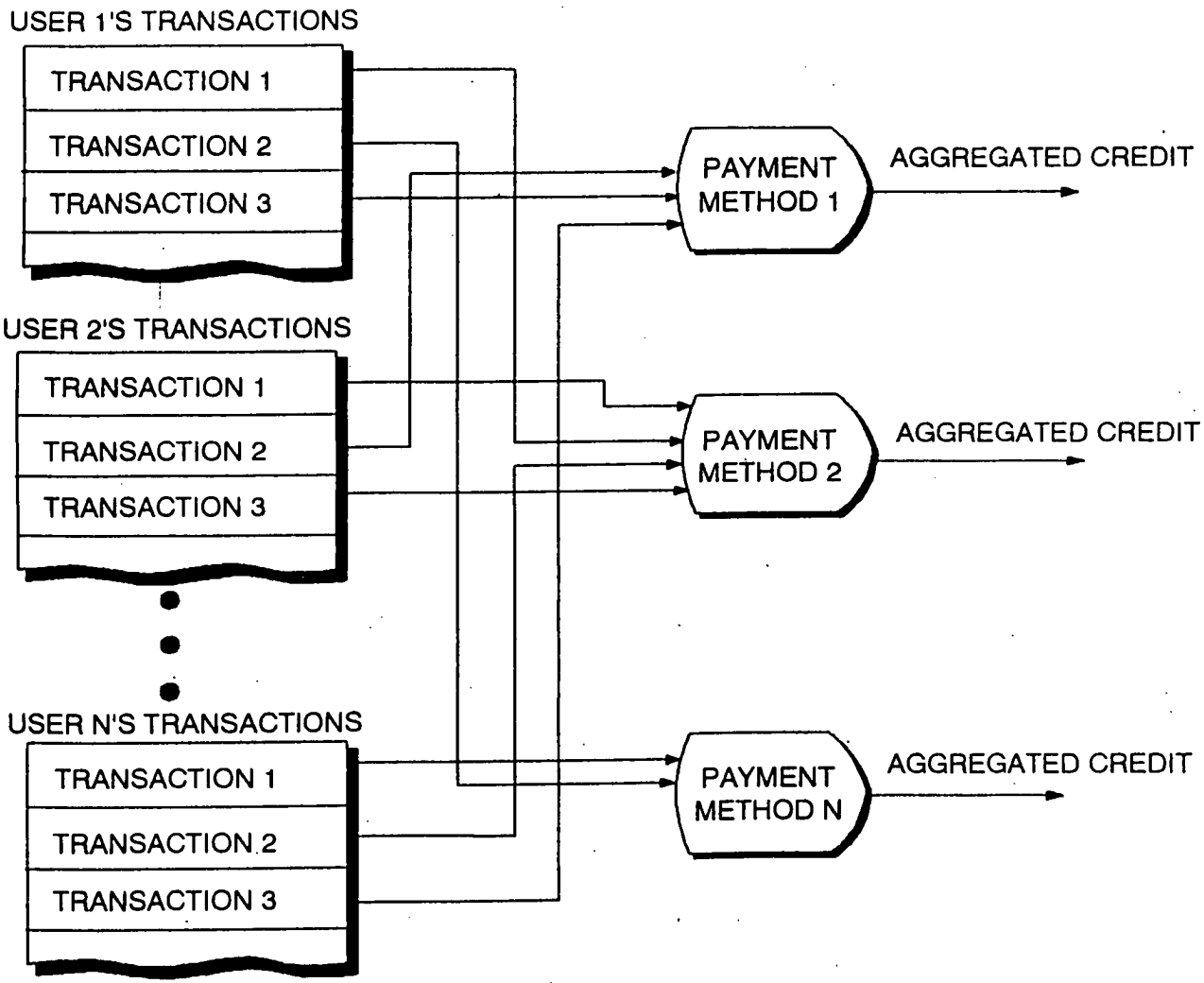


FIG. 31 Financial Clearinghouse Example Payment Aggregation

SECTION 365 DECLARED

FIG. 32 EXAMPLE FINANCIAL CLEARINGHOUSE ARRANGEMENT

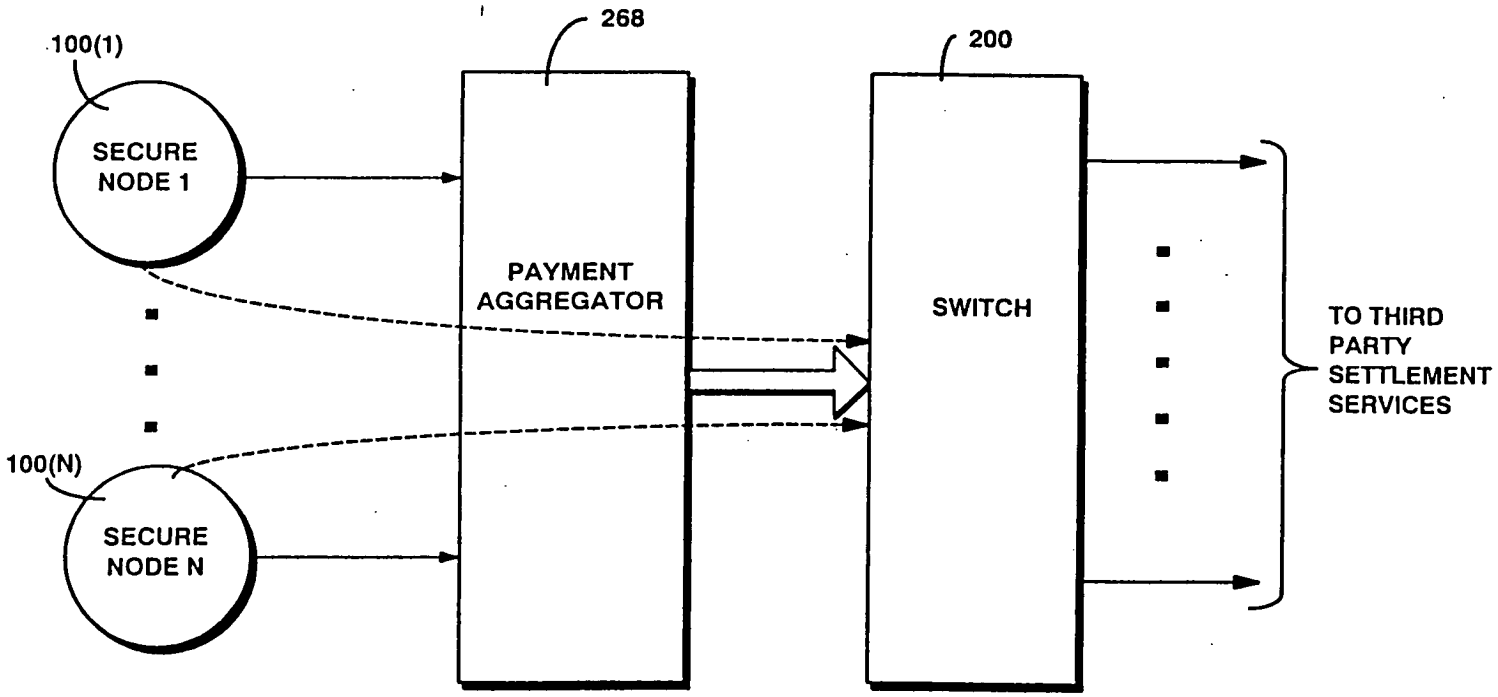


FIG. 33

Example Usage Clearinghouse

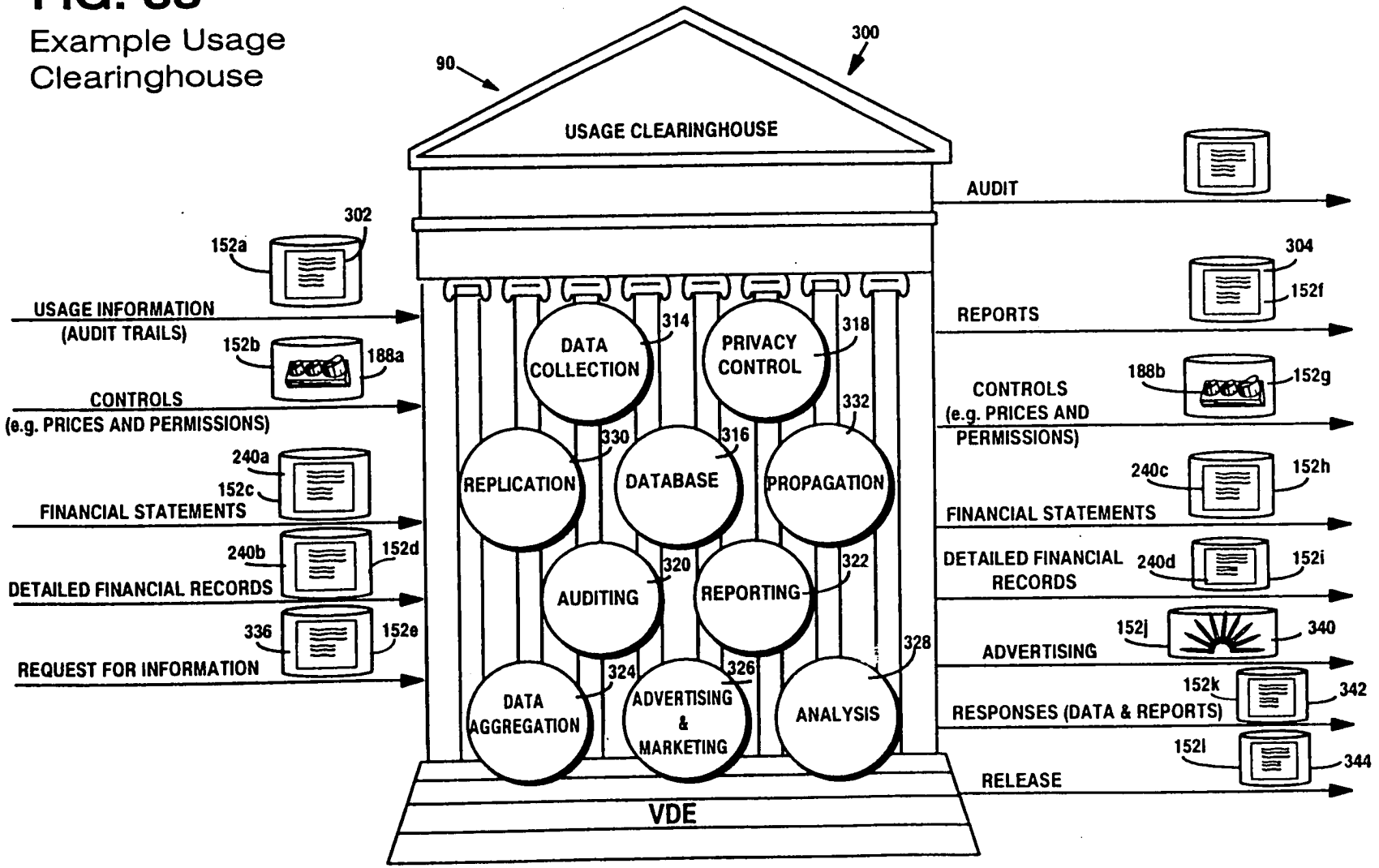


EXHIBIT 2035

FIG. 34

EXAMPLE USAGE CLEARINGHOUSE

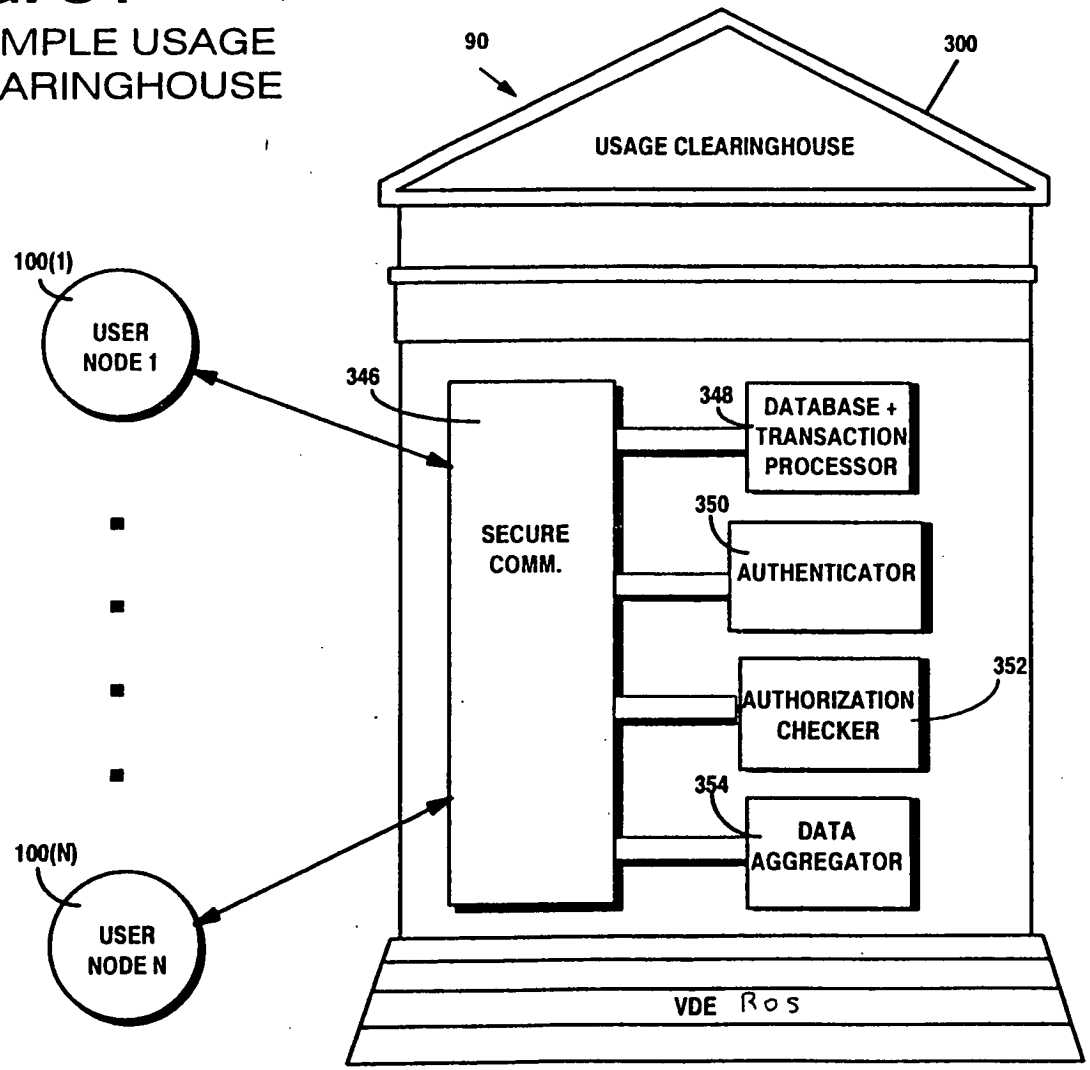


FIG. 35 Example Usage Clearing Process

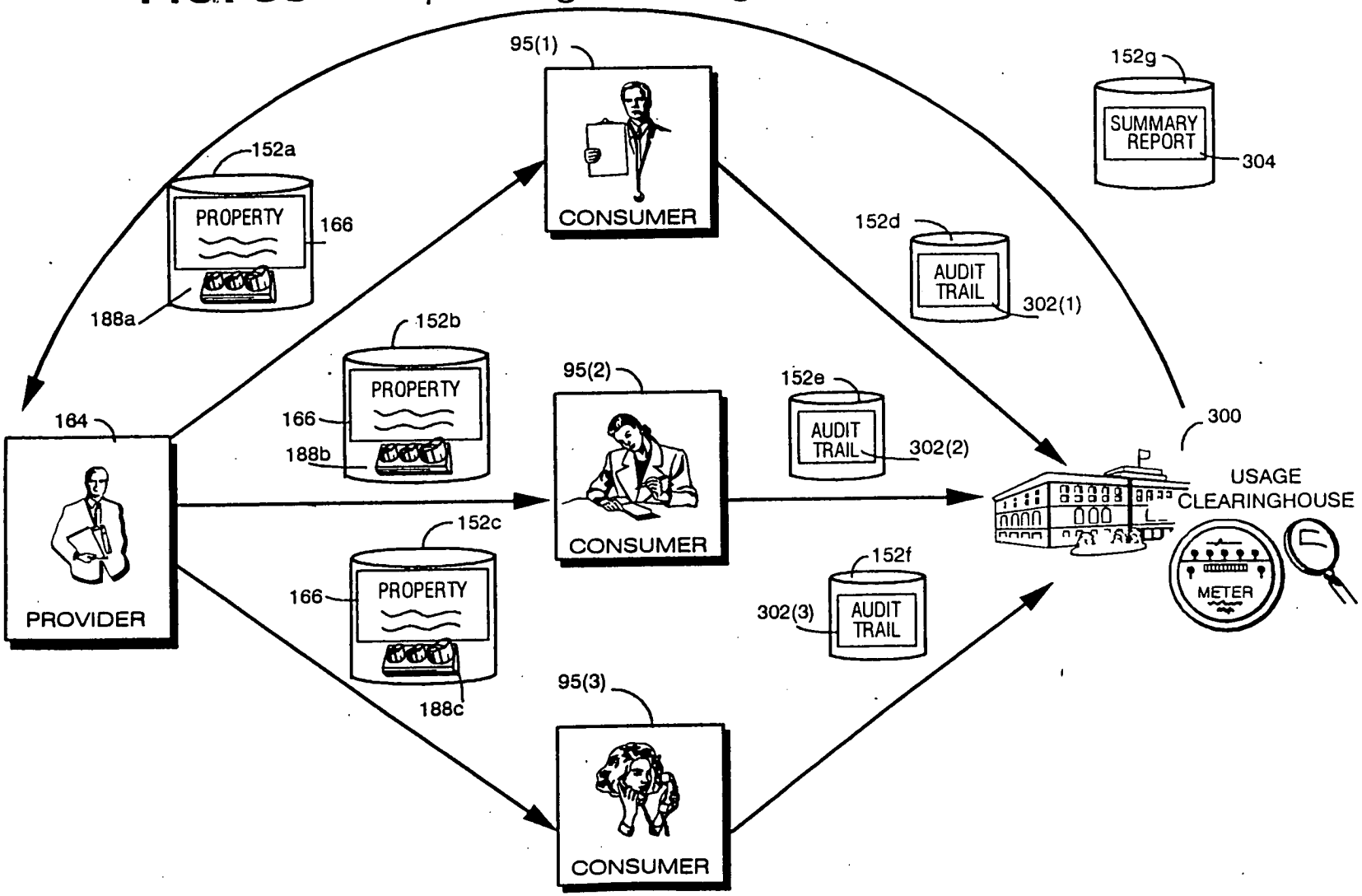
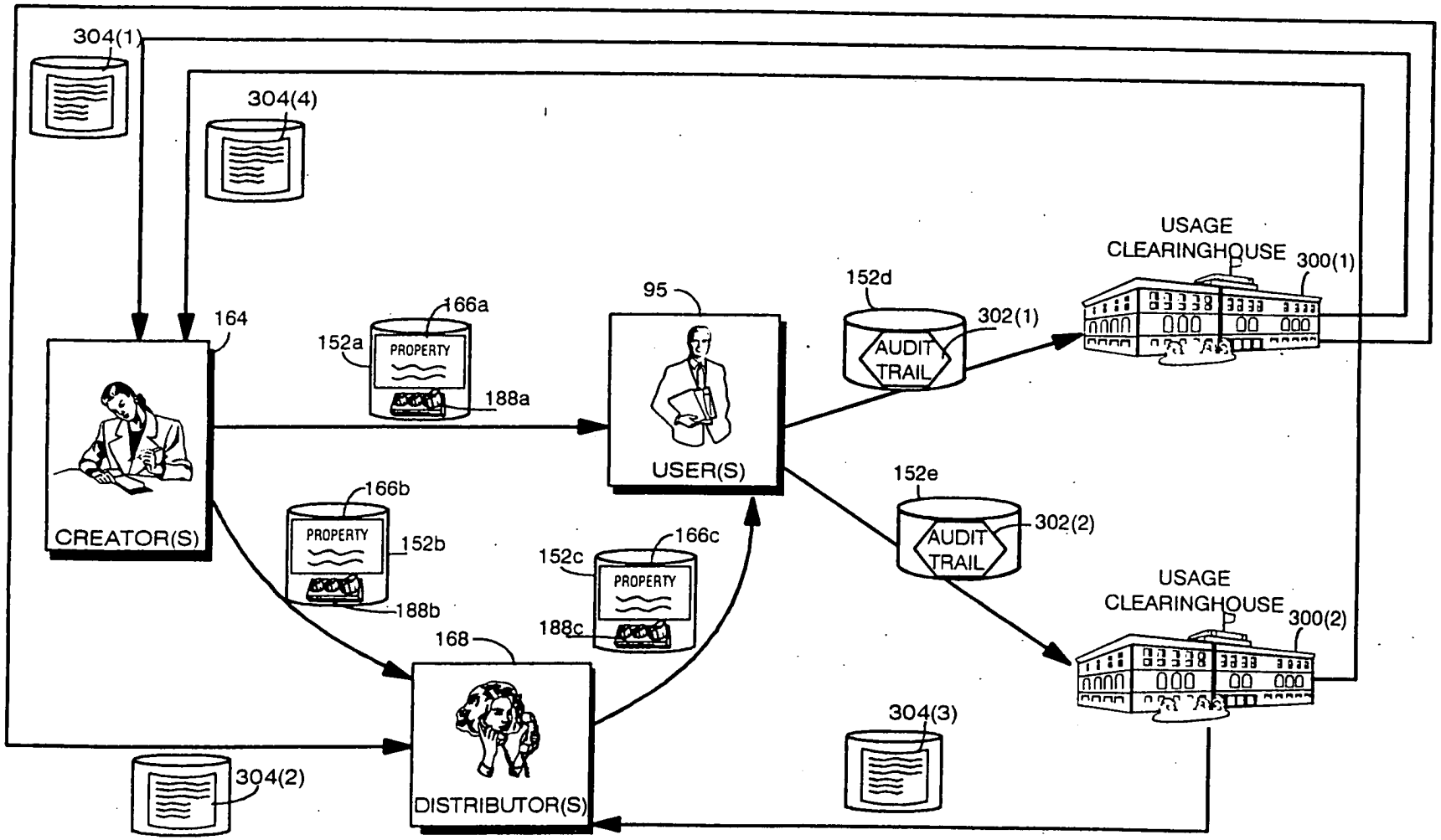


FIG. 36 Example Usage Clearing Process



Subject to Protective Order

FIG. 37 Example Financial & Usage Clearinghouse Process

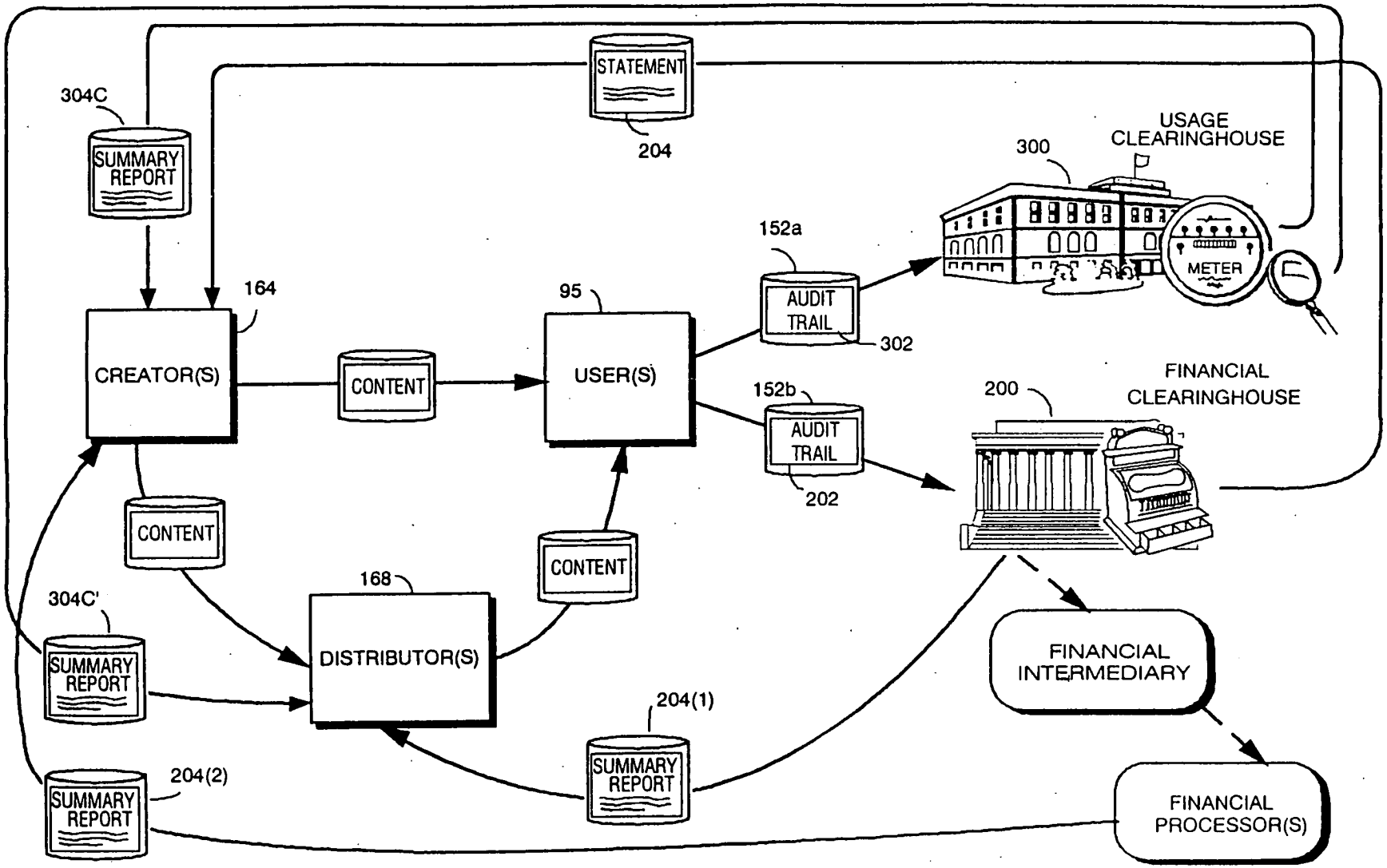


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FIG. 38 EXAMPLE USAGE CLEARINGHOUSE MEDIA PLACEMENT

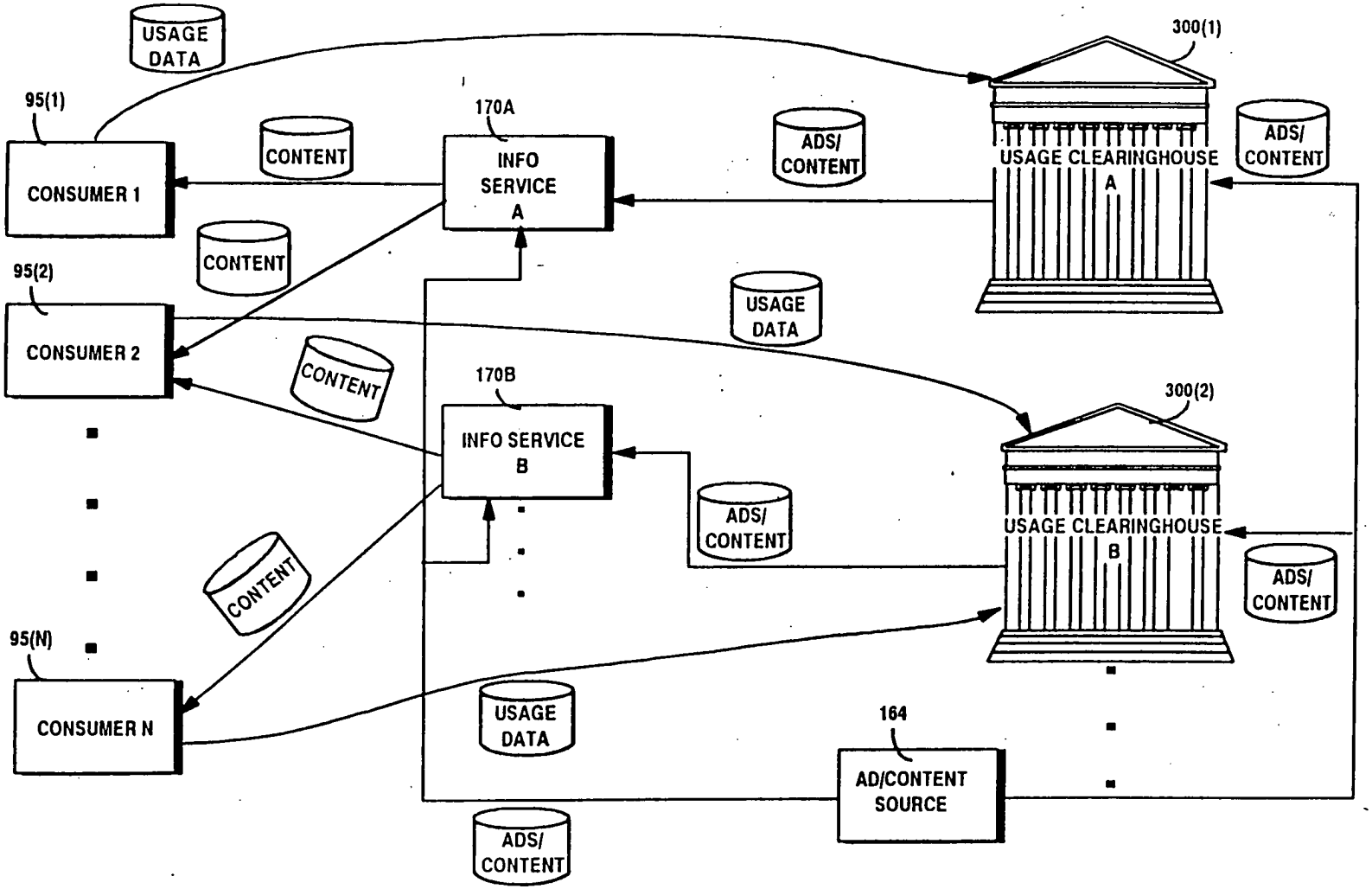


FIG. 39

EXAMPLE USAGE CLEARINGHOUSE
DISCOUNTS BASED ON DISCLOSURE

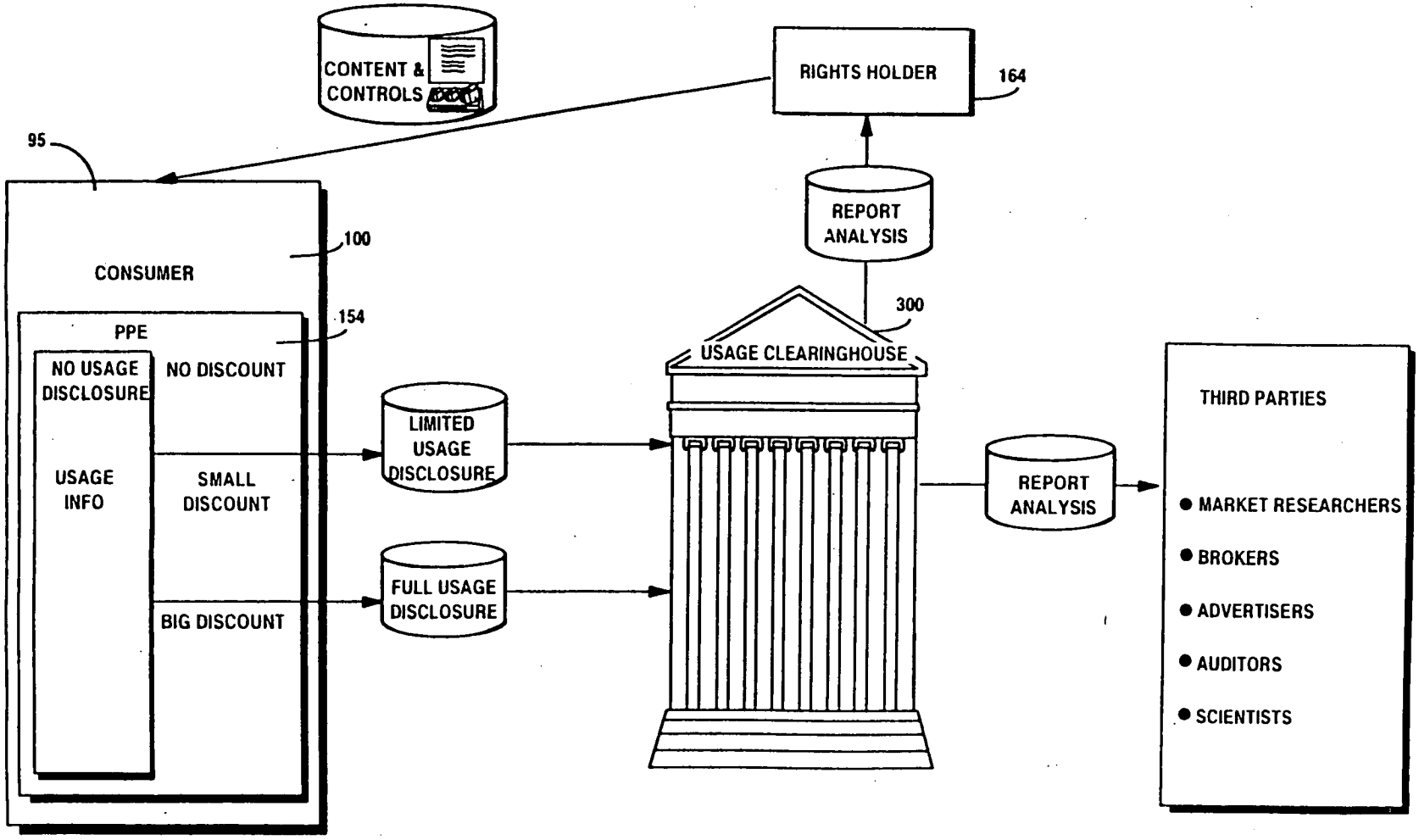


FIG. 40

Example Rights and Permissions Clearinghouse

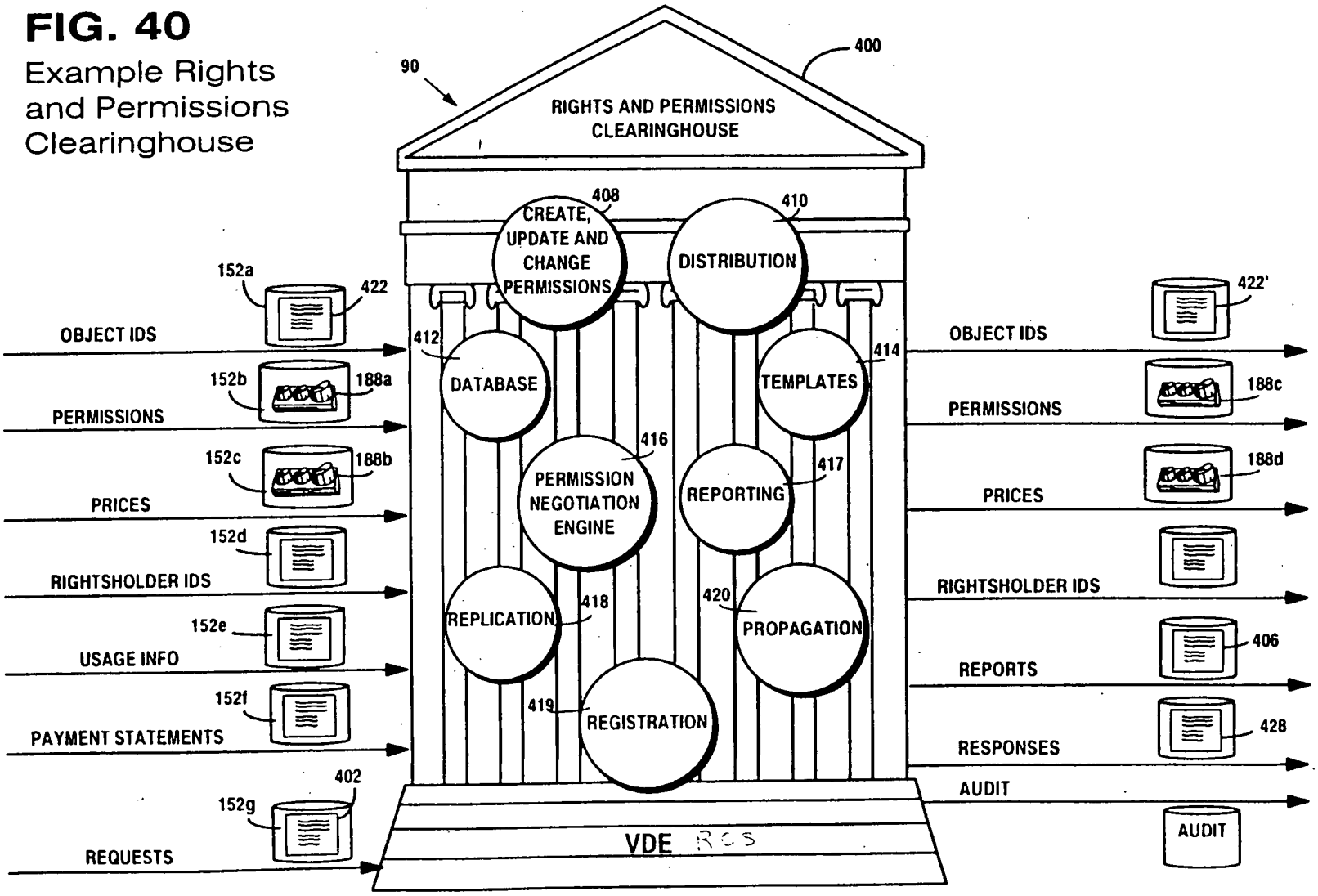
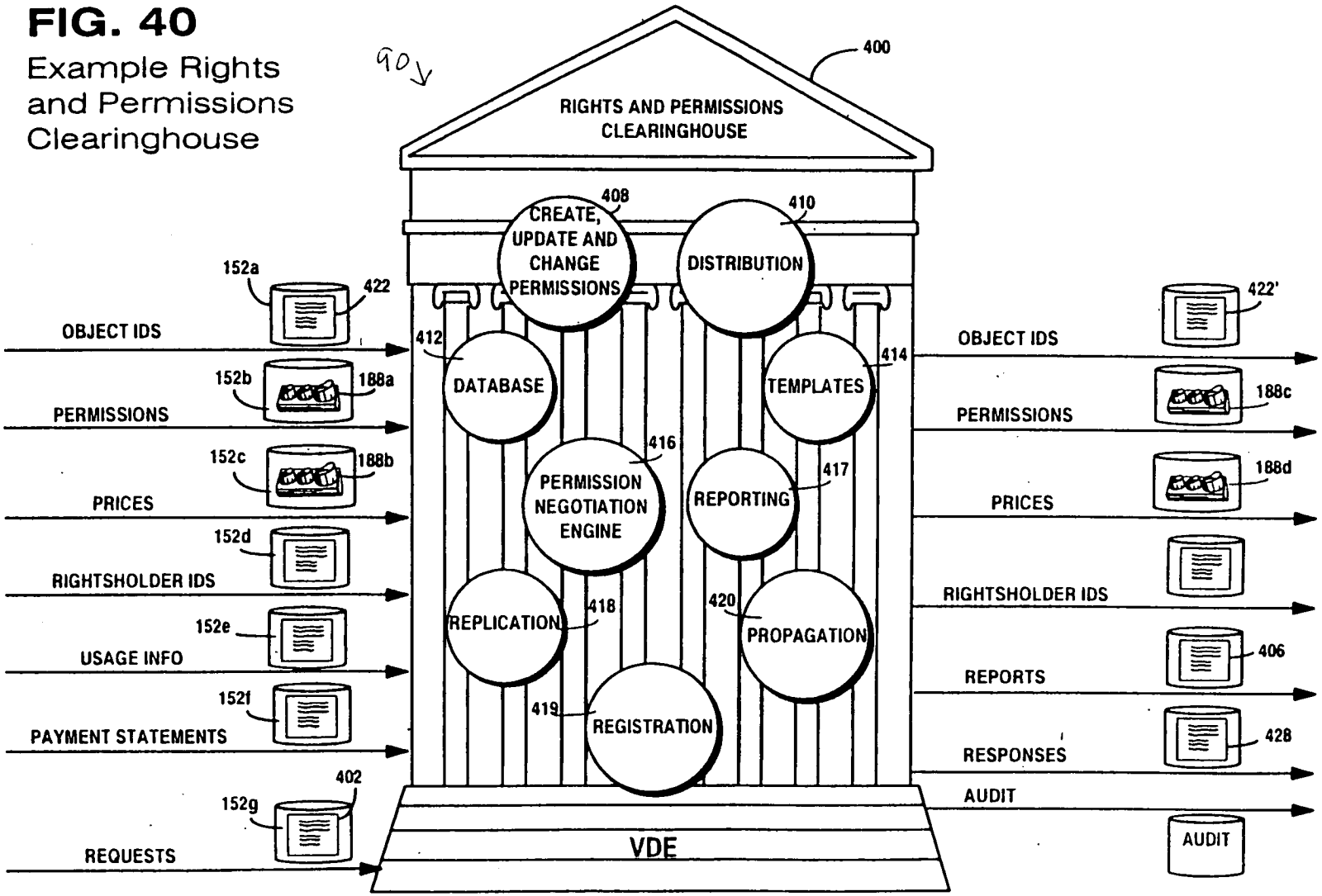


FIG. 40

Example Rights and Permissions Clearinghouse



CLAIMED SUBJECT

FIG. 41
Rights and Permissions Clearinghouse

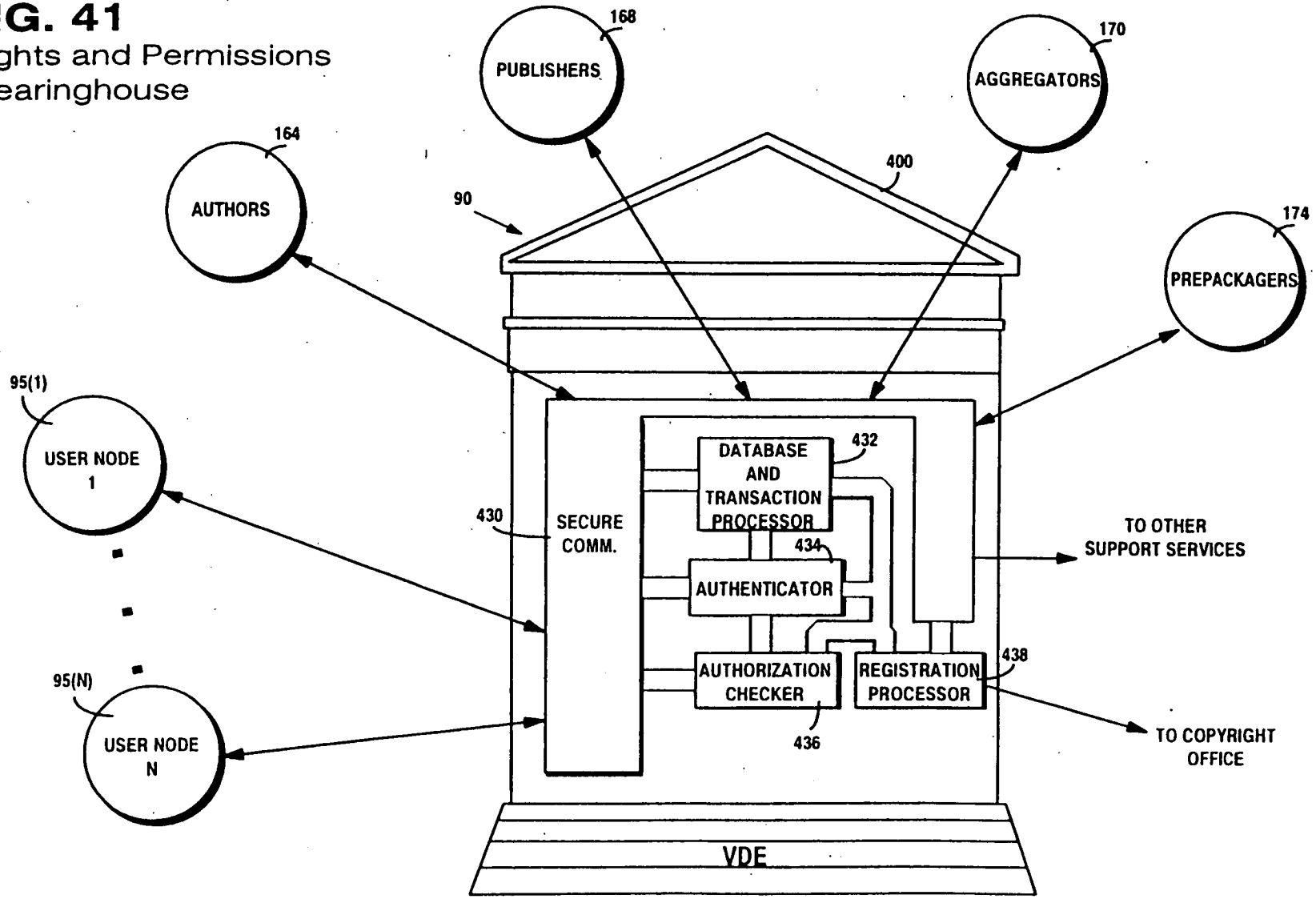
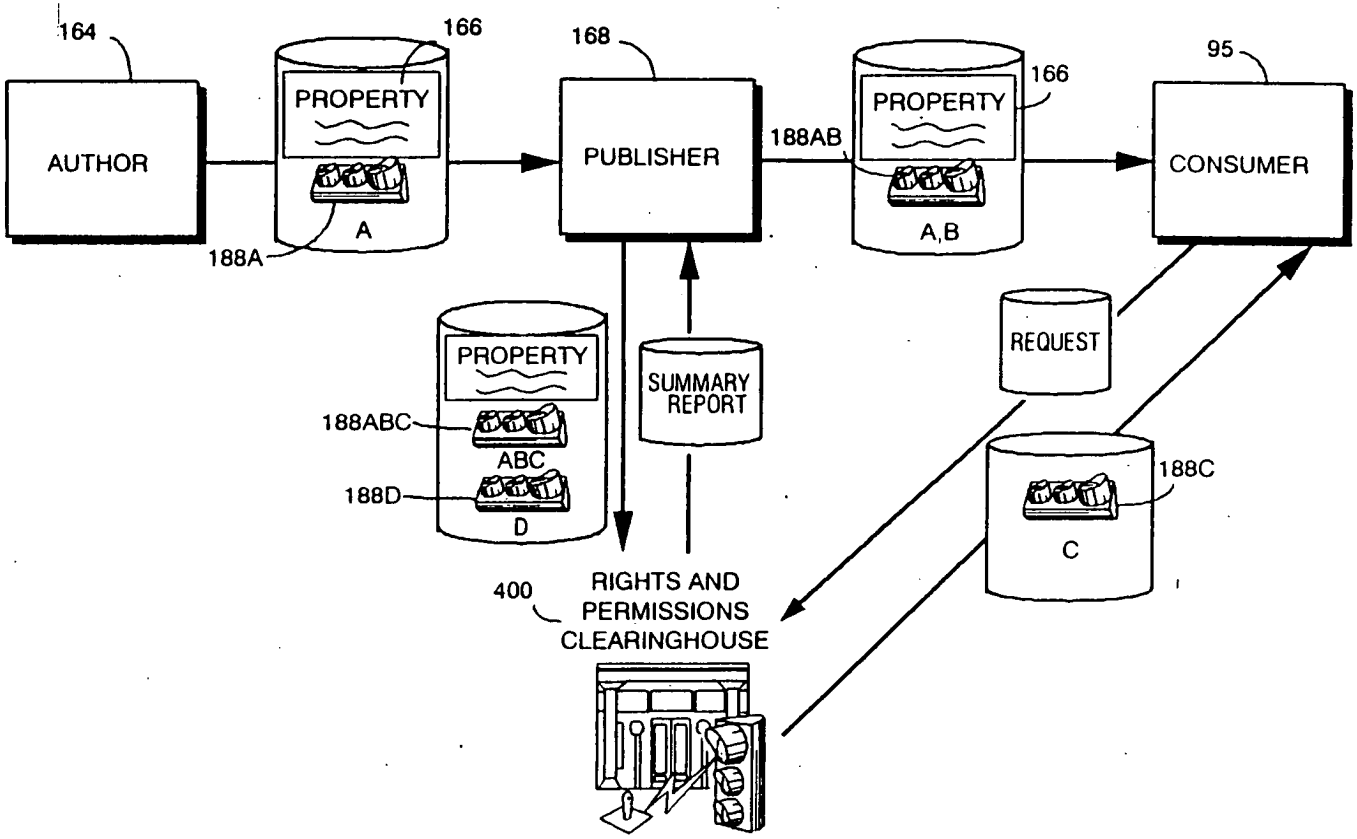


FIG. 42 Example Rights & Permissions Clearinghouse Process



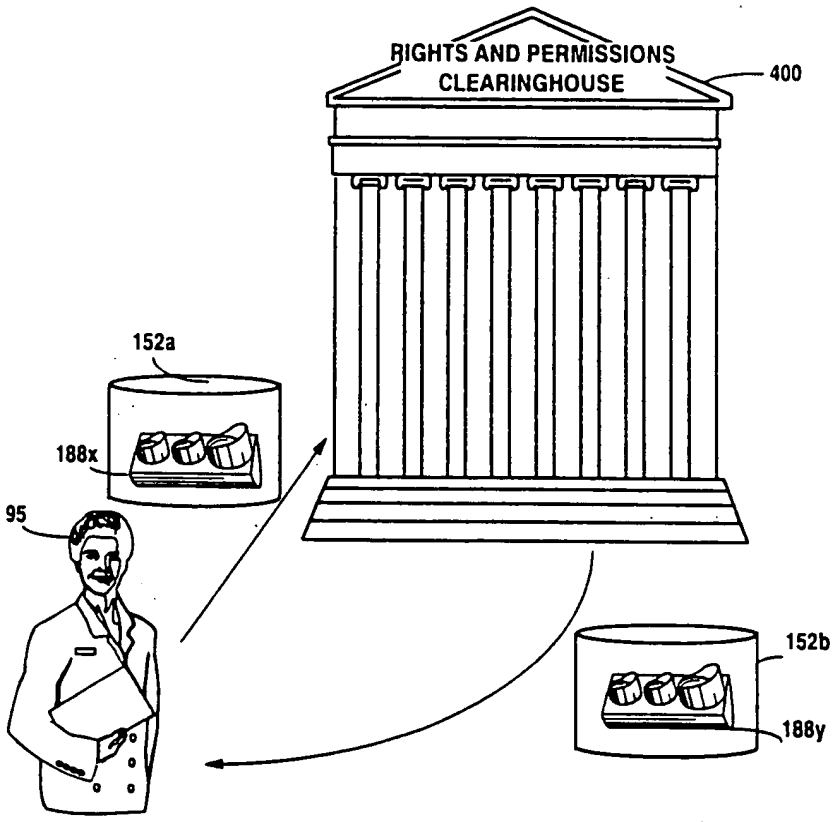
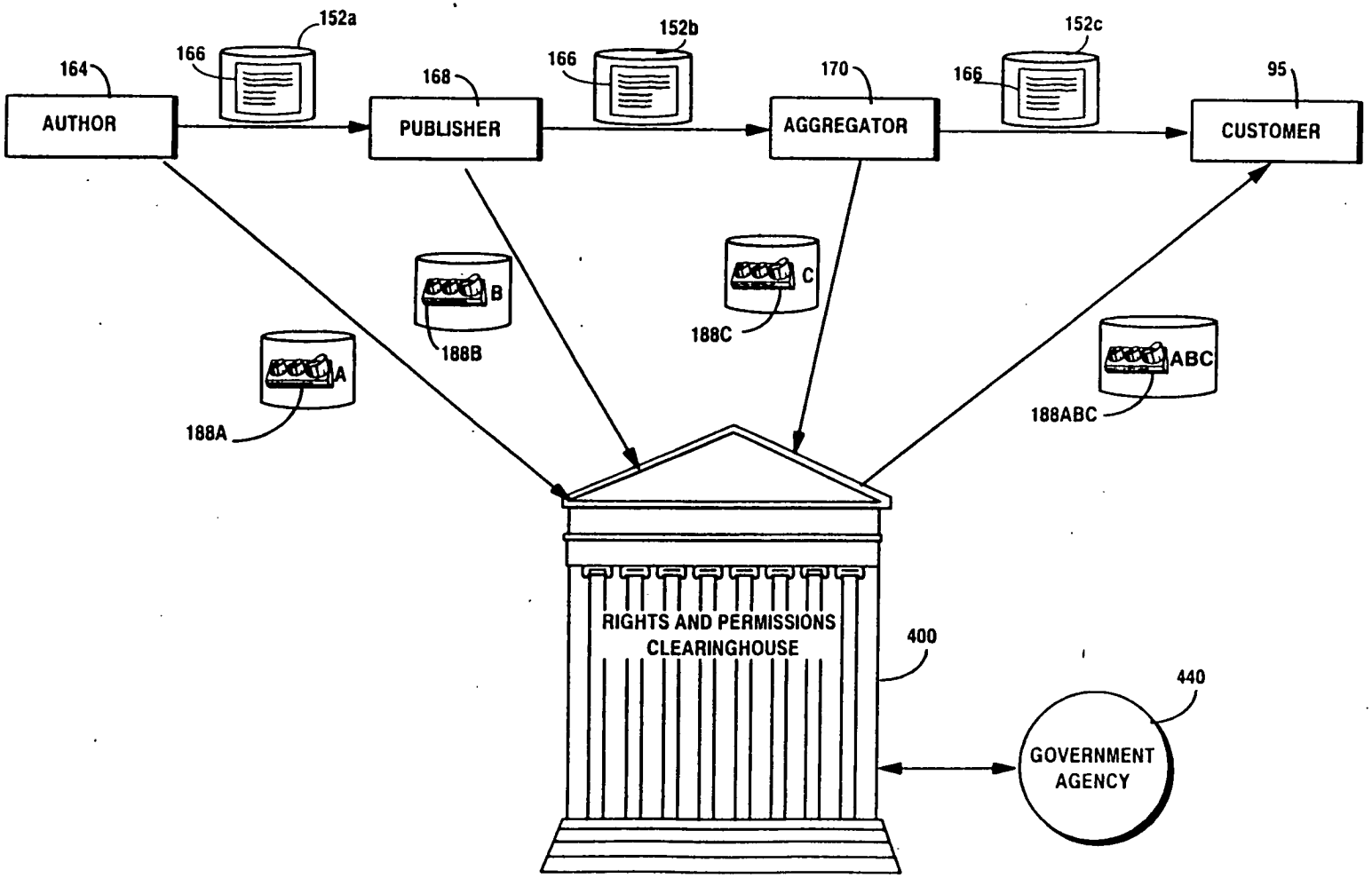


FIG. 42A
Consumer Registers Control Set
To Request Updates

FIG. 43 EXAMPLE RIGHTS AND PERMISSIONS VALUE CHAIN



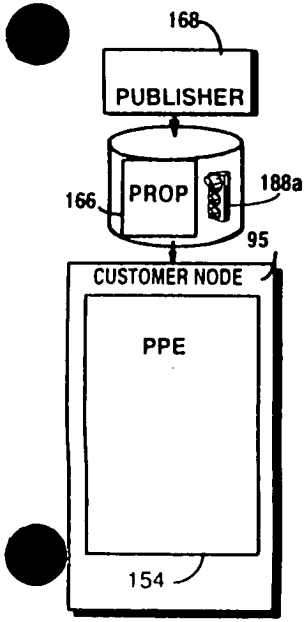


FIG. 44A
Customer Receives Property

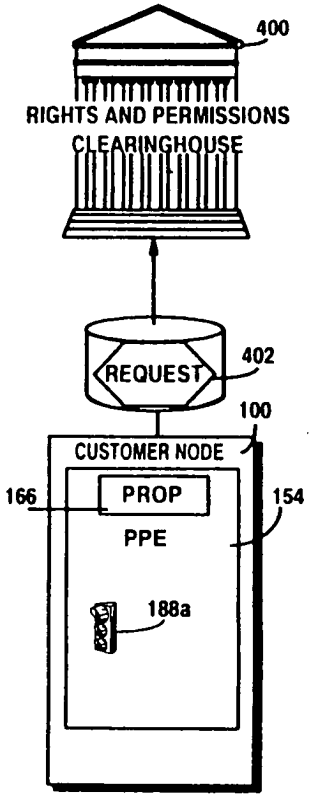


FIG. 44B
Customer Requests Rights To Use Property

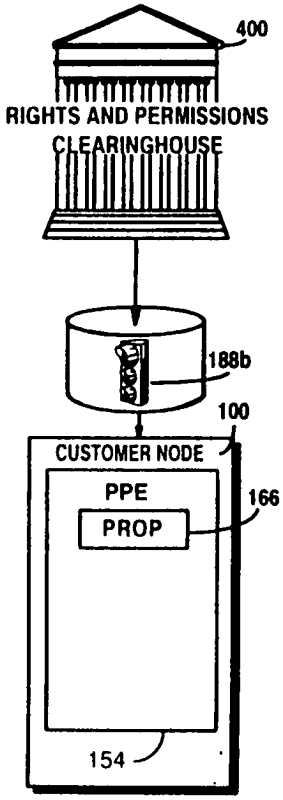


FIG. 44C
Rights and Permissions Clearinghouse Provides Rights To Customer

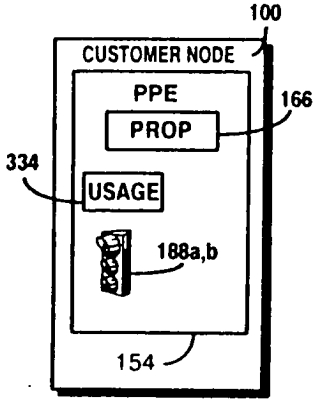


FIG. 44D
Customer Uses Property In Accordance With Rights

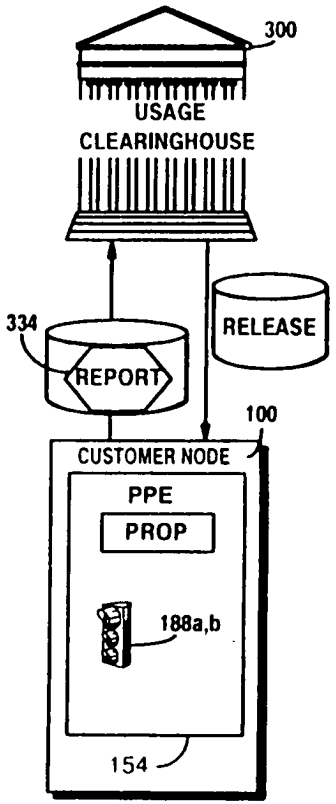


FIG. 44E
Customer Node Reports Aspects Of Usage

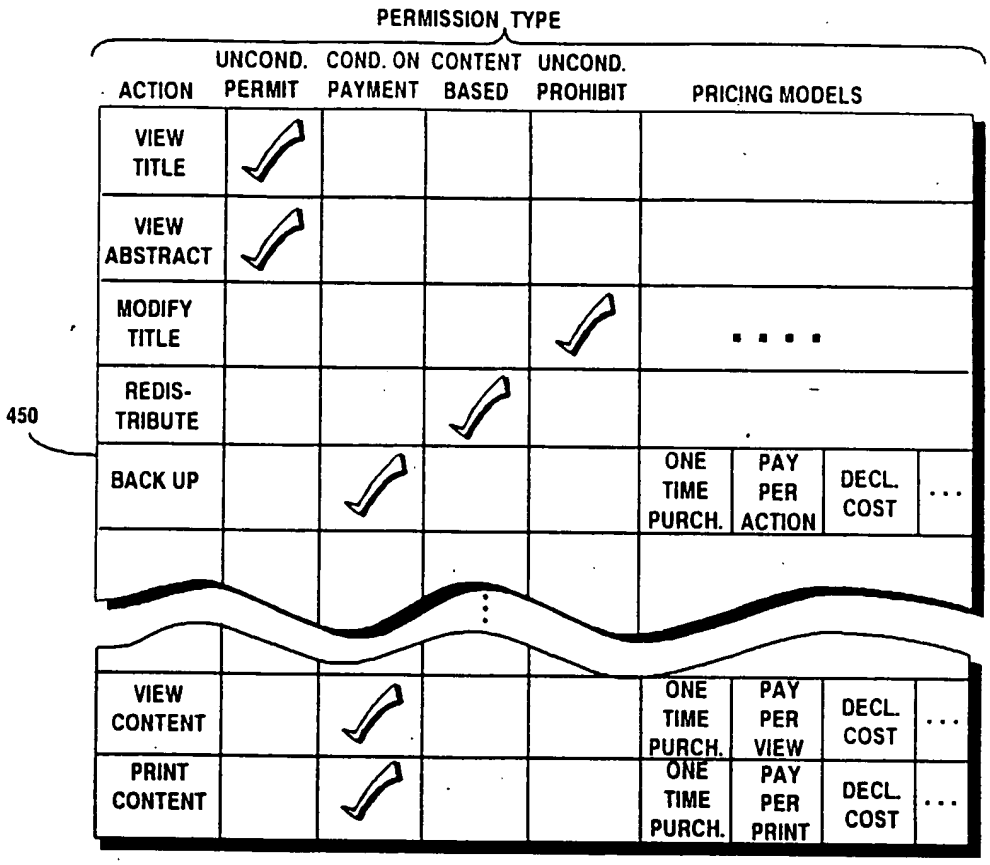


FIG. 45A EXAMPLE RIGHTS TEMPLATE

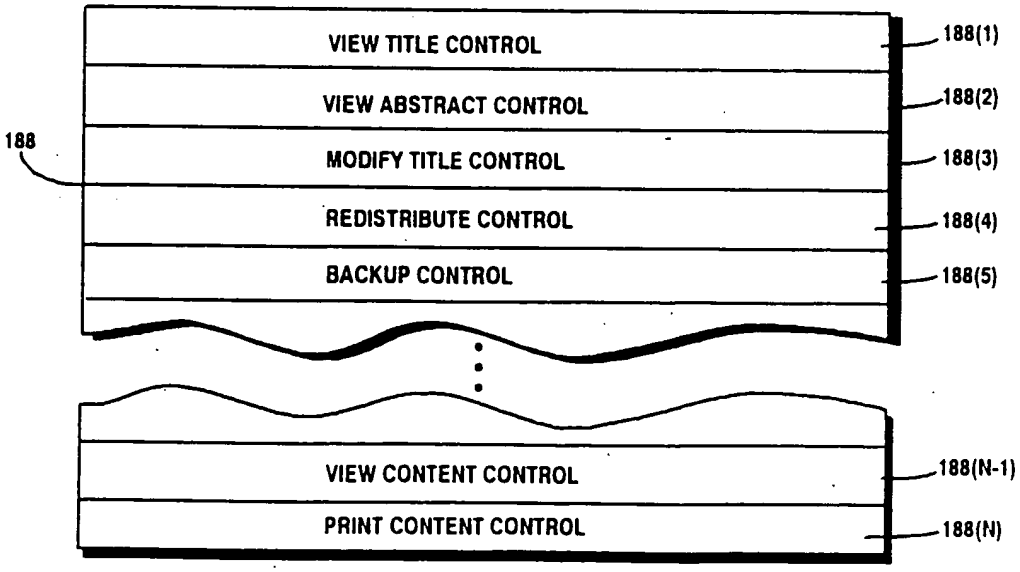


FIG. 45C EXAMPLE CONTROL SET

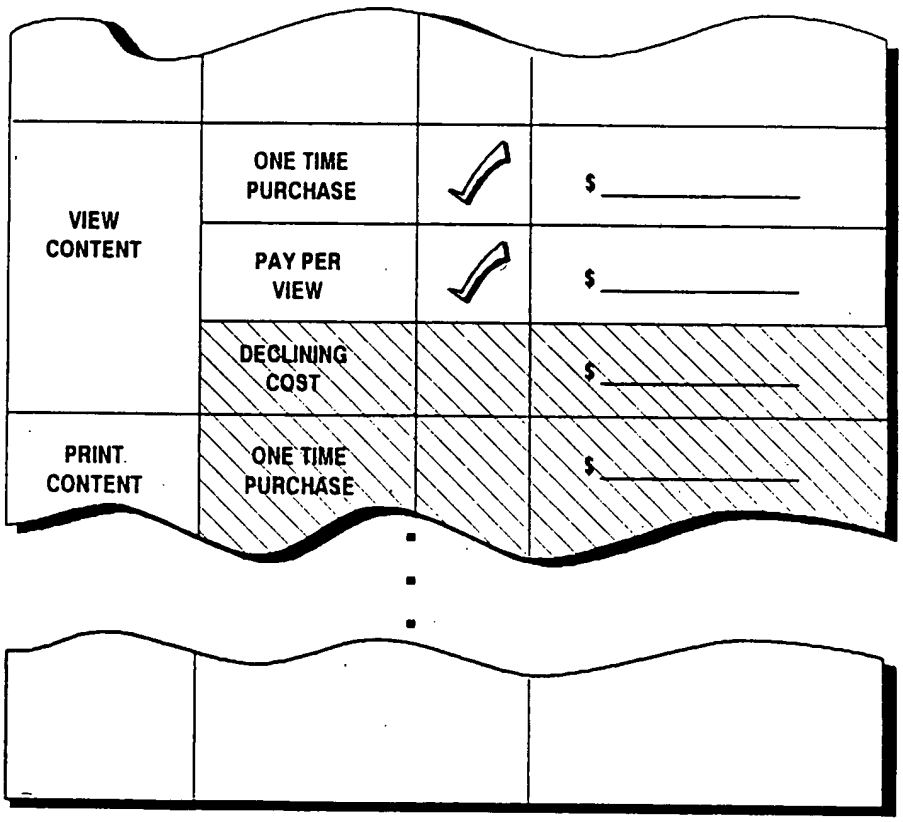


FIG. 45B PRICING MODELS AND LEVELS

Executed Software

FIG. 47
Example Certifying Authority

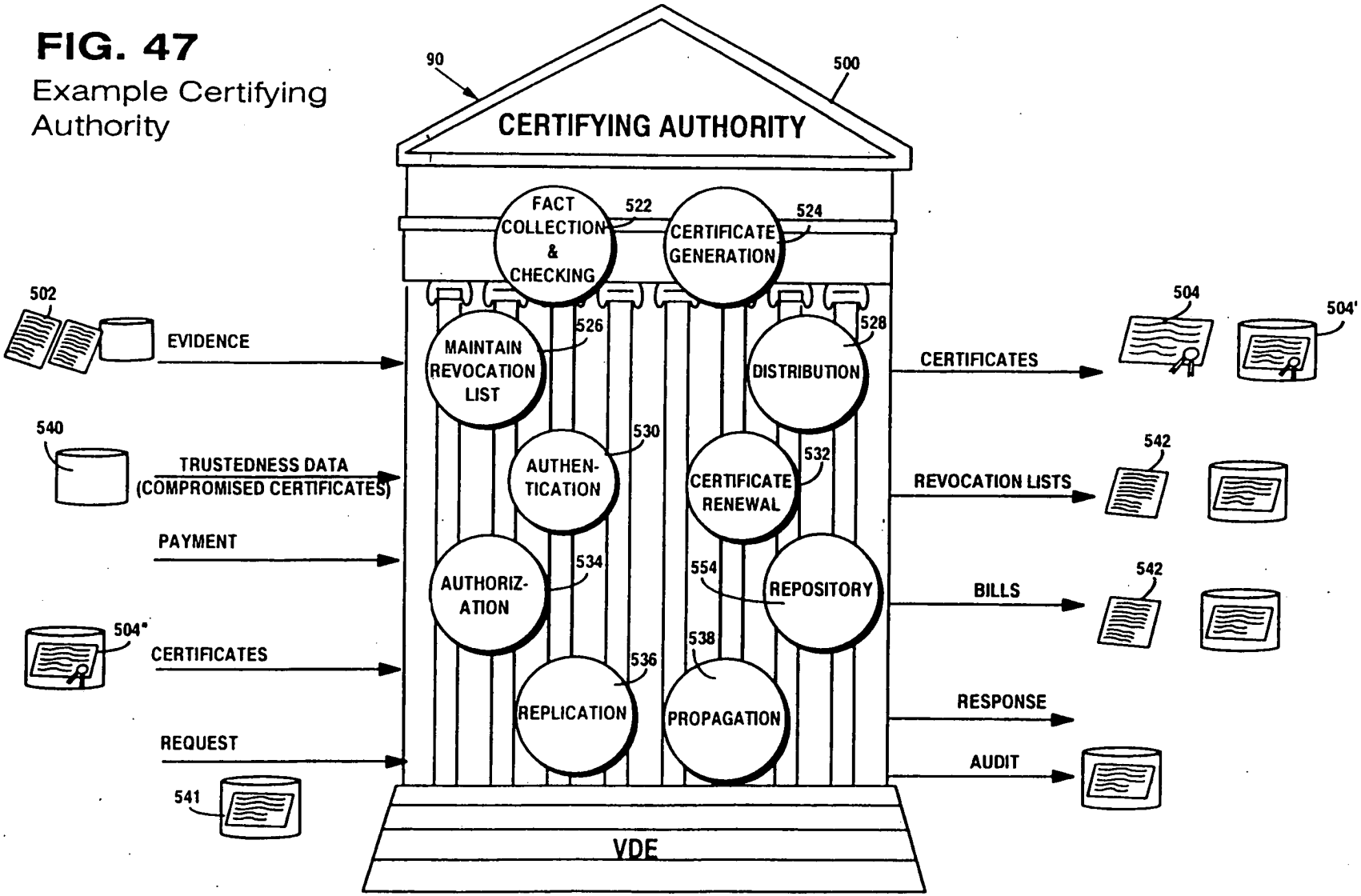


FIG. 46 Example Rights And Permissions Clearing Process

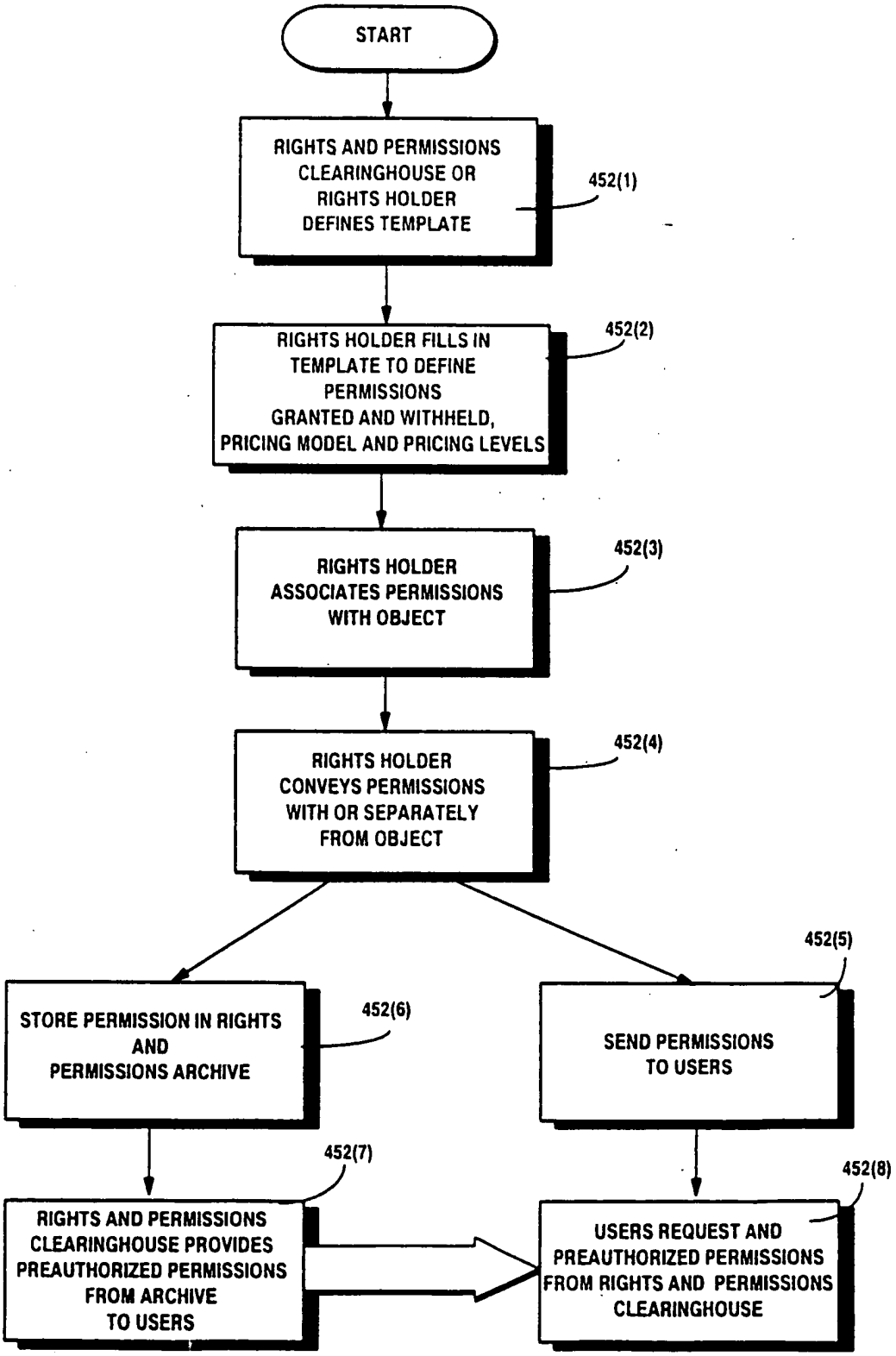


FIG. 49 Example Certifying Process

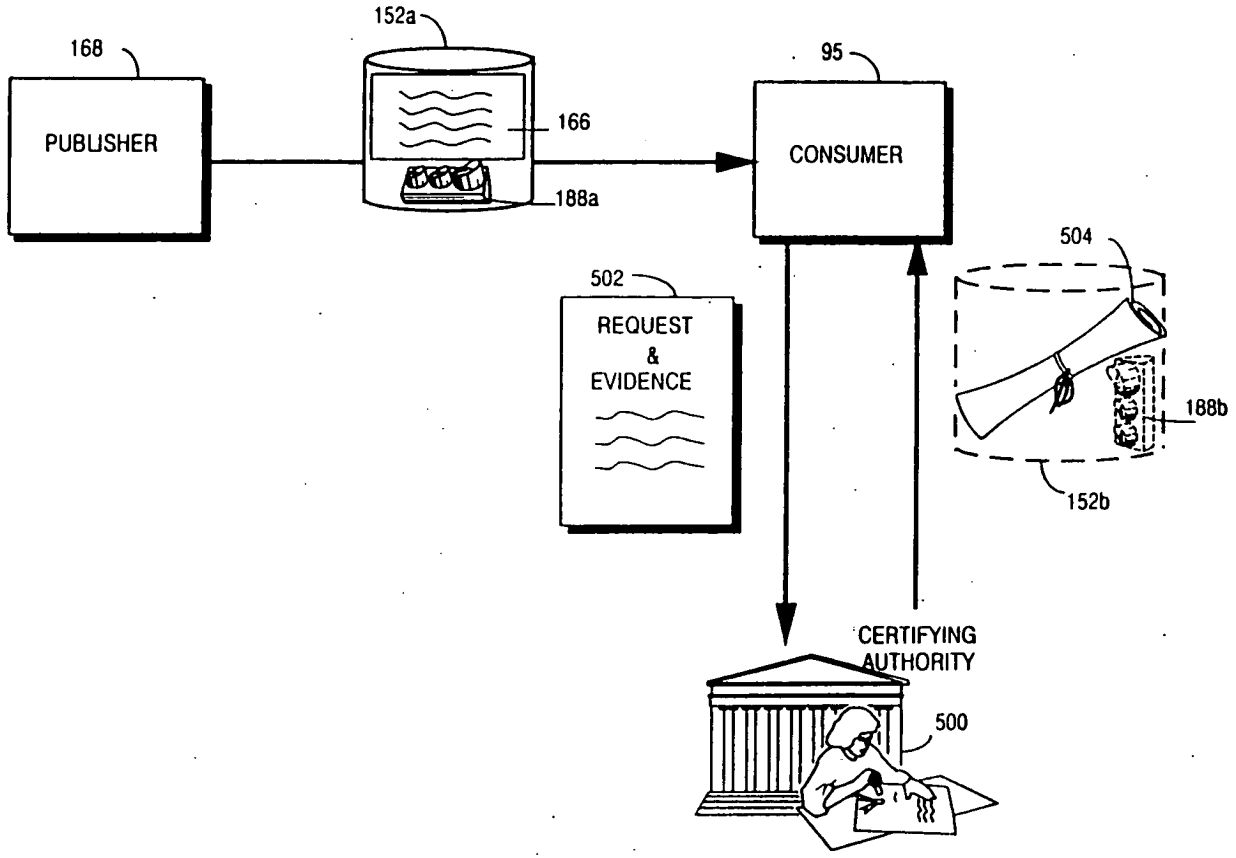


FIG. 48
Example Certifying Authority

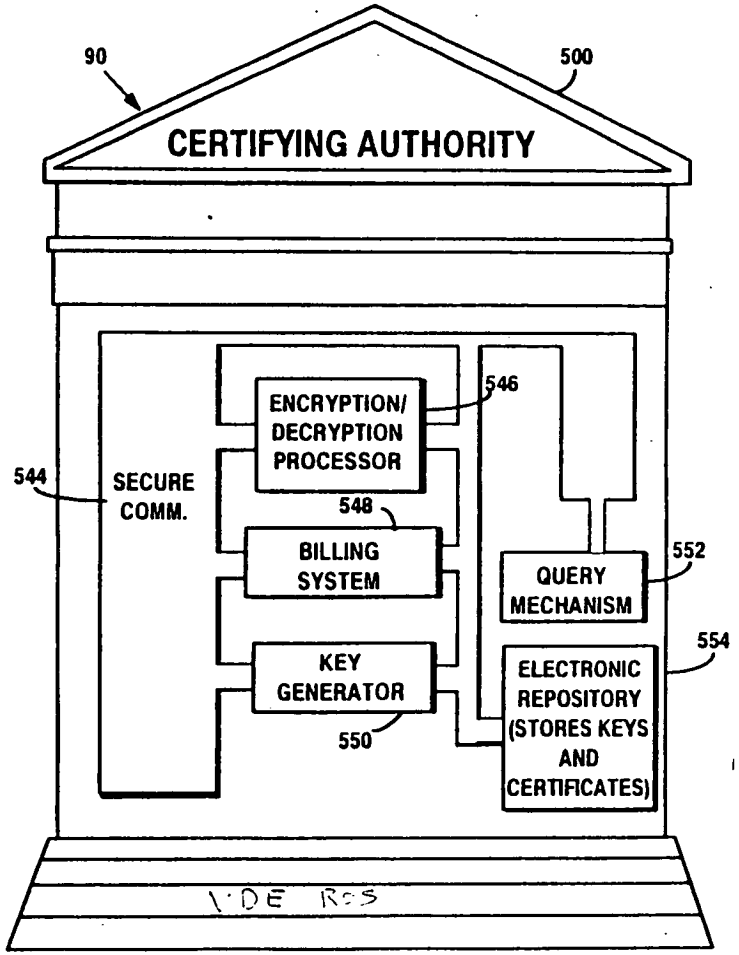
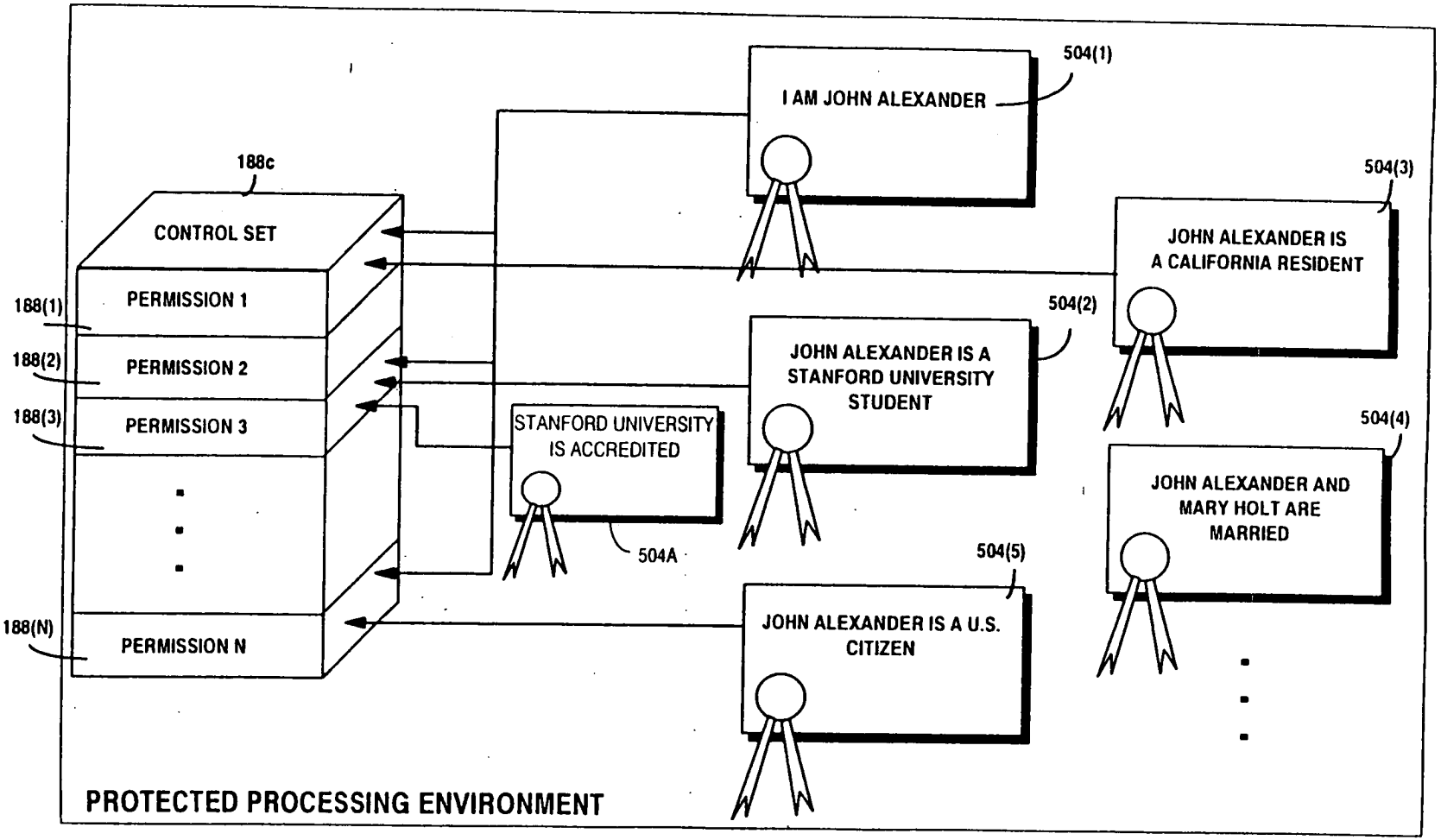


FIG. 50A Example Control Set Using Certificates



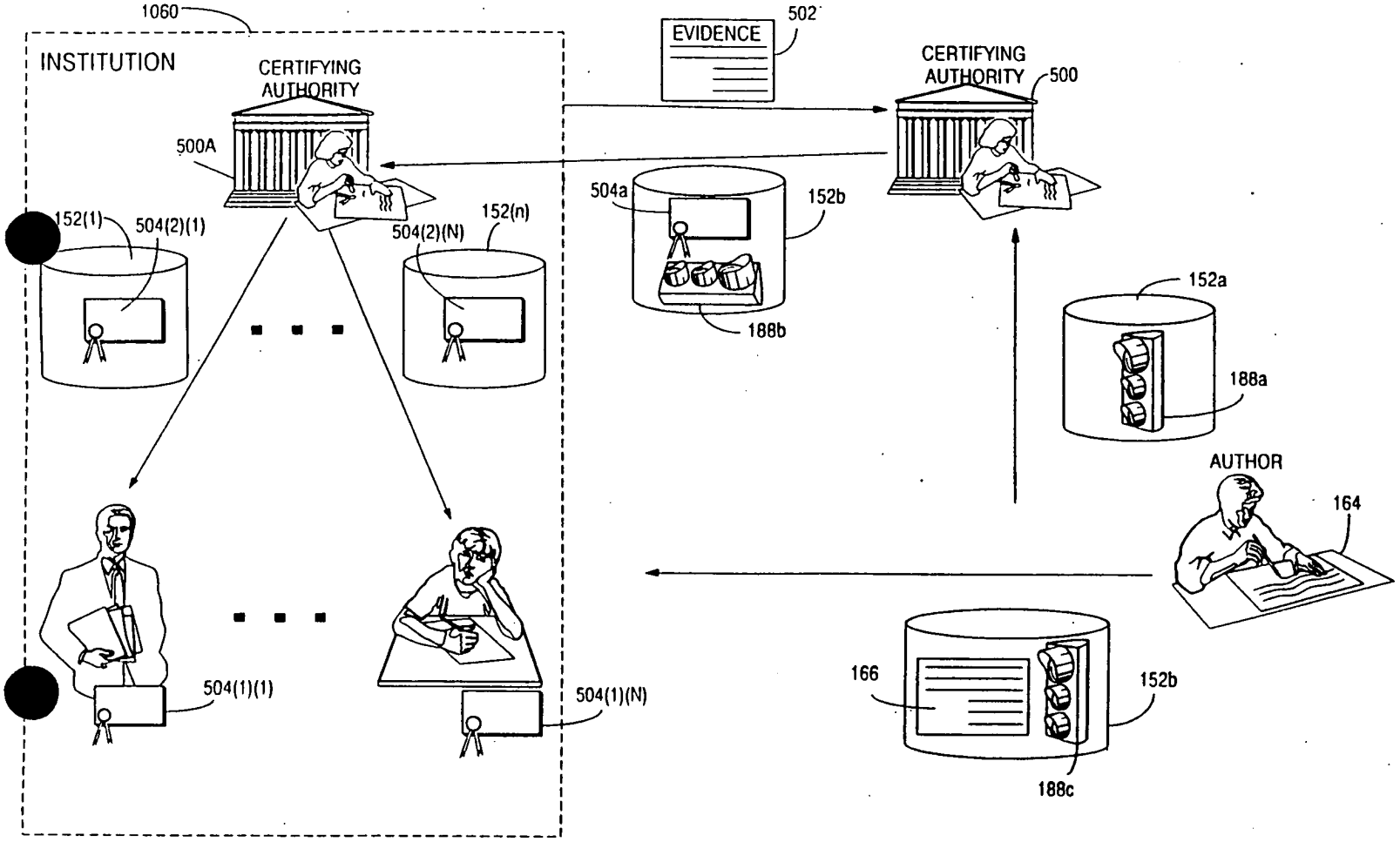
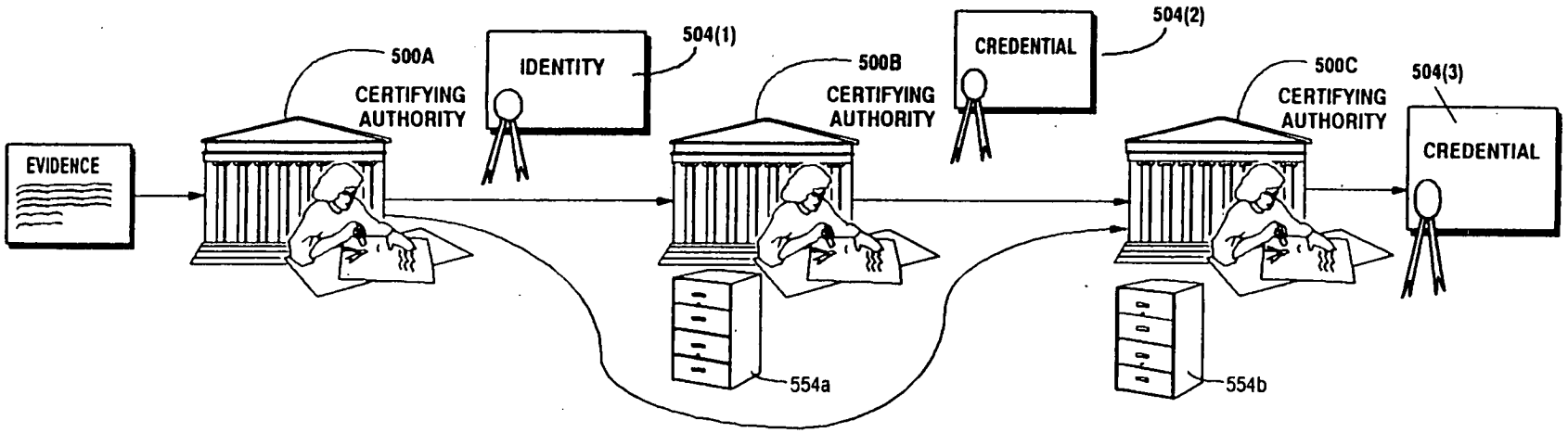


FIG. 50 Distributed Certificate Issuance

FIG. 51E Generating Certificates Based On Other Certificates



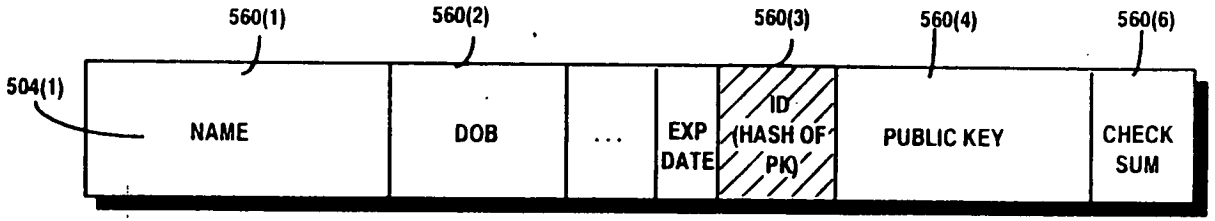


FIG. 51A

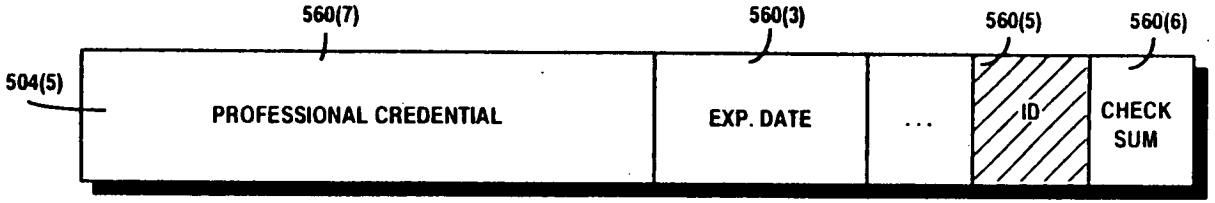


FIG. 51B

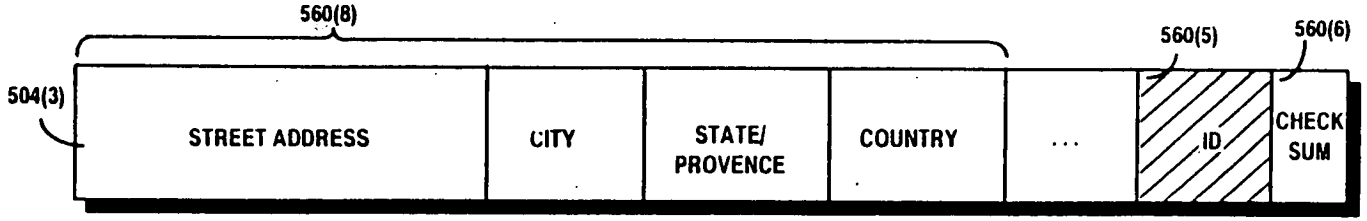


FIG. 51C

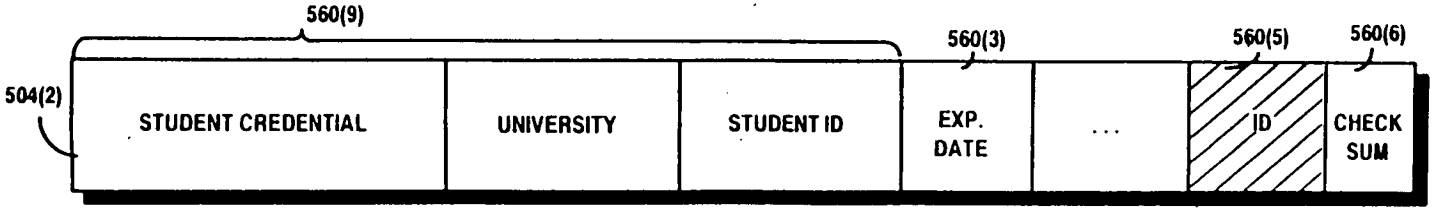


FIG. 51D

Example Digital Certificates

FIG. 51G

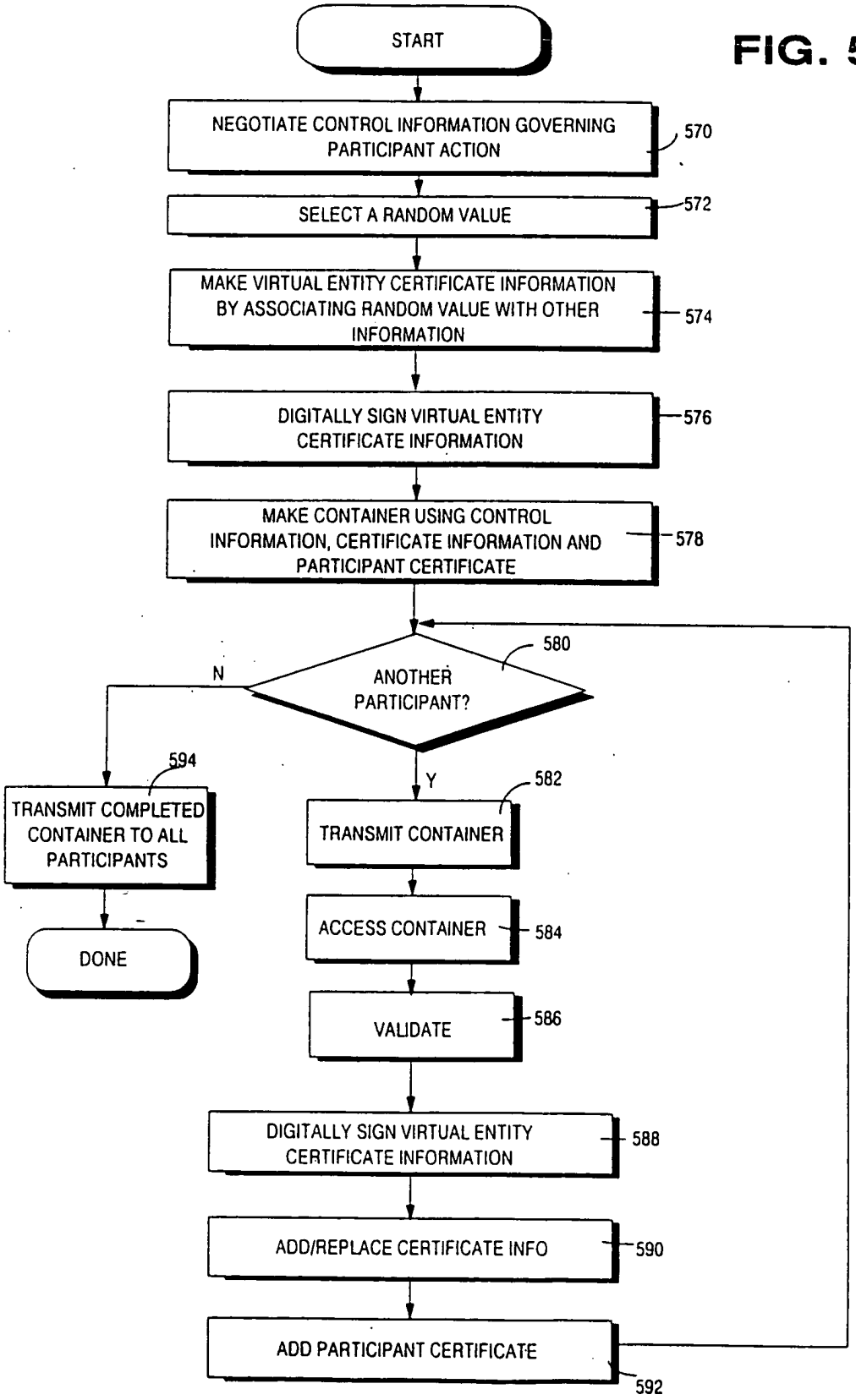

START
NEGOTIATE CONTROL INFORMATION GOVERNING PARTICIPANT ACTION
570
SELECT A RANDOM VALUE
572
MAKE VIRTUAL ENTITY CERTIFICATE INFORMATION BY ASSOCIATING RANDOM VALUE WITH OTHER INFORMATION
574
DIGITALLY SIGN VIRTUAL ENTITY CERTIFICATE INFORMATION
576
MAKE CONTAINER USING CONTROL INFORMATION, CERTIFICATE INFORMATION AND PARTICIPANT CERTIFICATE
578
ANOTHER PARTICIPANT?
580
N
Y
TRANSMIT COMPLETED CONTAINER TO ALL PARTICIPANTS
594
DONE
TRANSMIT CONTAINER
582
ACCESS CONTAINER
584
VALIDATE
586
DIGITALLY SIGN VIRTUAL ENTITY CERTIFICATE INFORMATION
588
ADD/REPLACE CERTIFICATE INFO
590
ADD PARTICIPANT CERTIFICATE
592

FIG. 51F

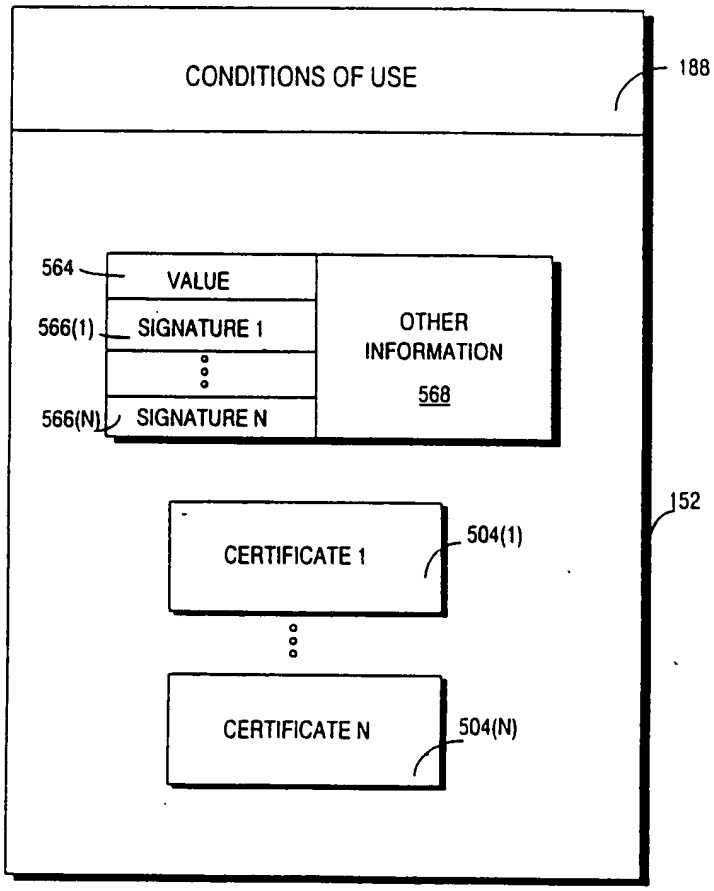

CONDITIONS OF USE
188
564
VALUE
566(1)
SIGNATURE 1
566(N)
SIGNATURE N
OTHER INFORMATION
568
152
CERTIFICATE 1
504(1)
CERTIFICATE N
504(N)

FIG. 52
Secure Directory Services

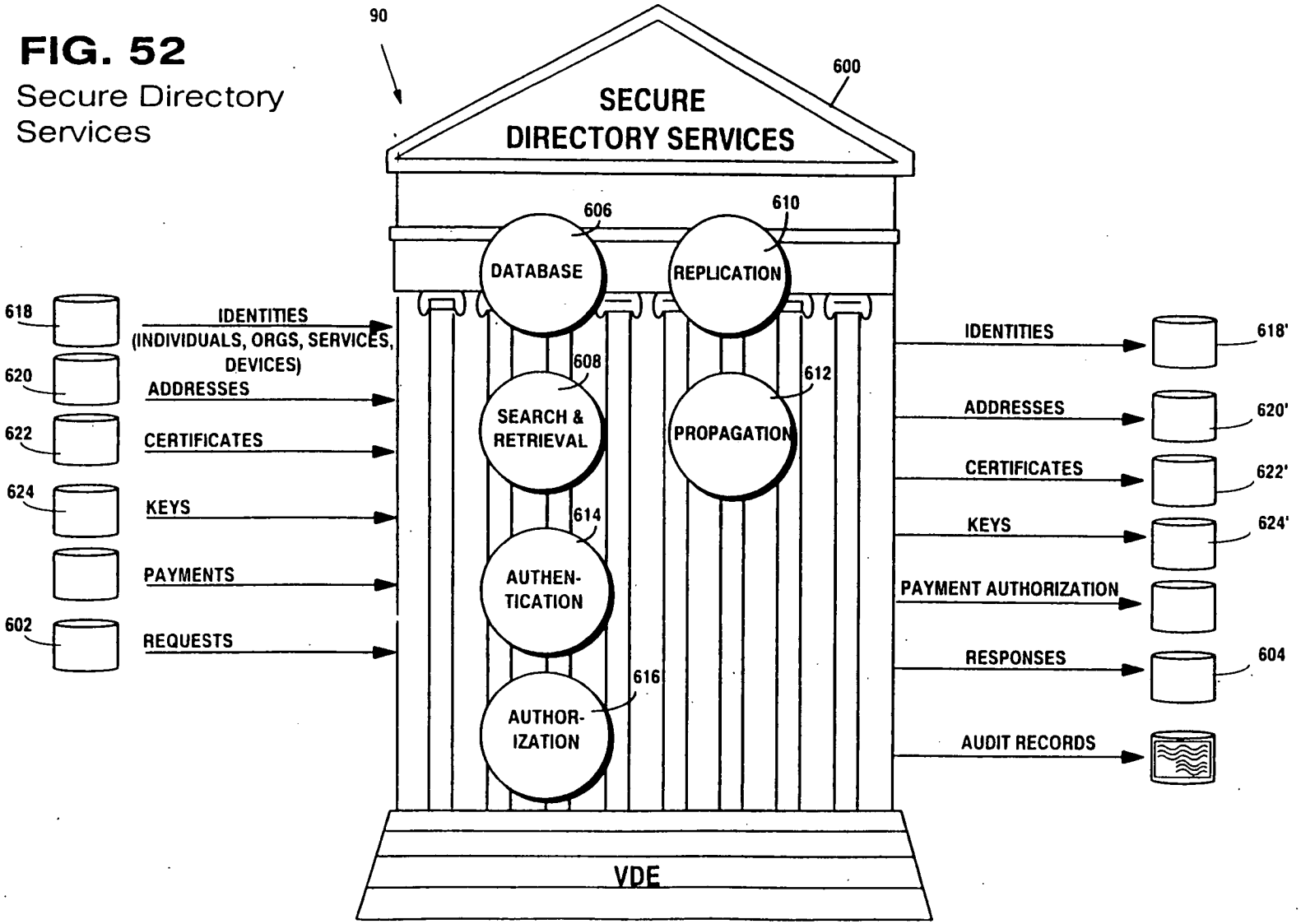


FIG. 51H

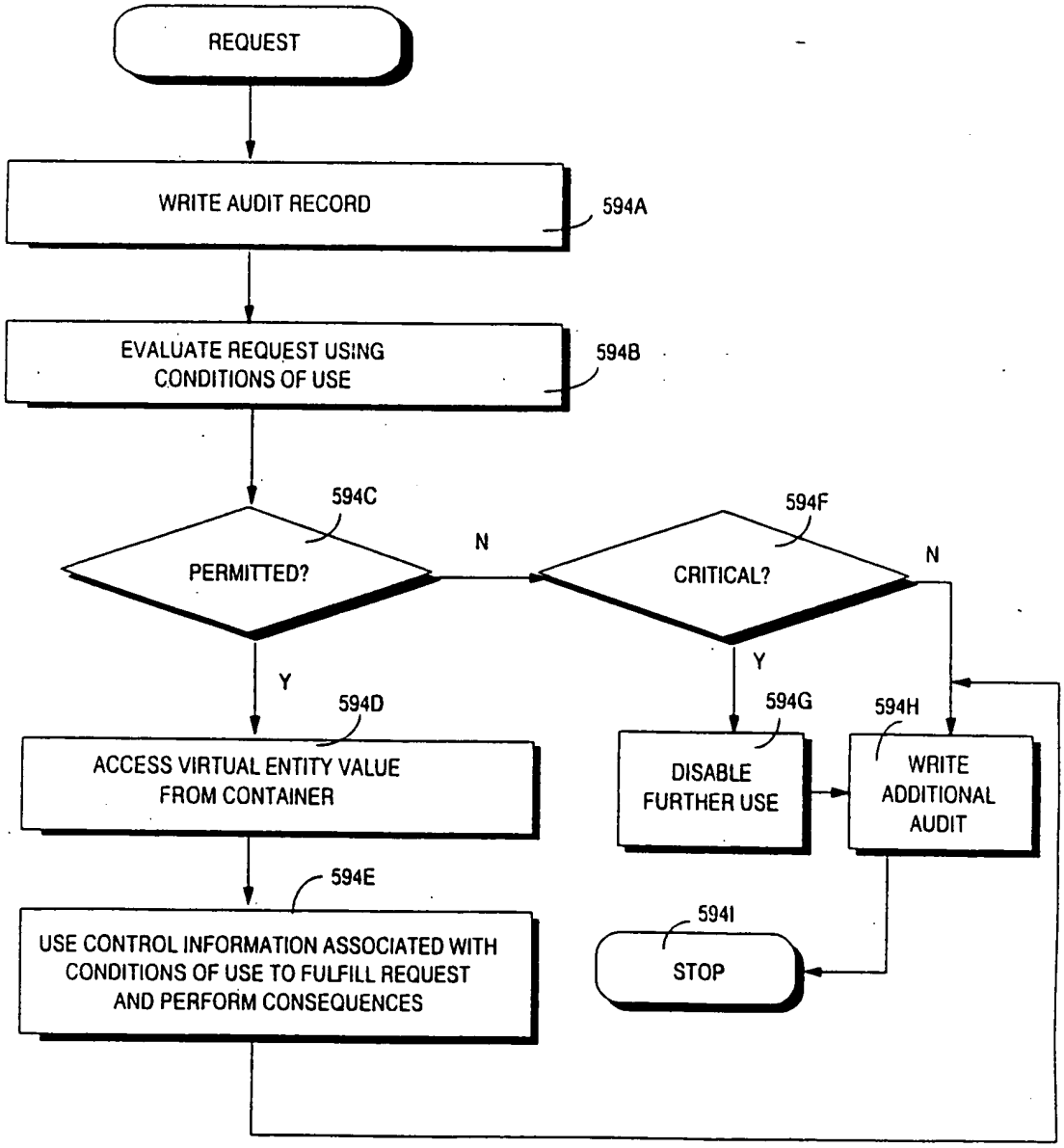

REQUEST
WRITE AUDIT RECORD
594A
EVALUATE REQUEST USING CONDITIONS OF USE
594B
594C
PERMITTED?
N
594F
CRITICAL?
N
Y
Y
594D
ACCESS VIRTUAL ENTITY VALUE FROM CONTAINER
594G
DISABLE FURTHER USE
594H
WRITE ADDITIONAL AUDIT
594E
USE CONTROL INFORMATION ASSOCIATED WITH CONDITIONS OF USE TO FULFILL REQUEST AND PERFORM CONSEQUENCES
594I
STOP

FIG. 54 Example Secure Directory Service Process

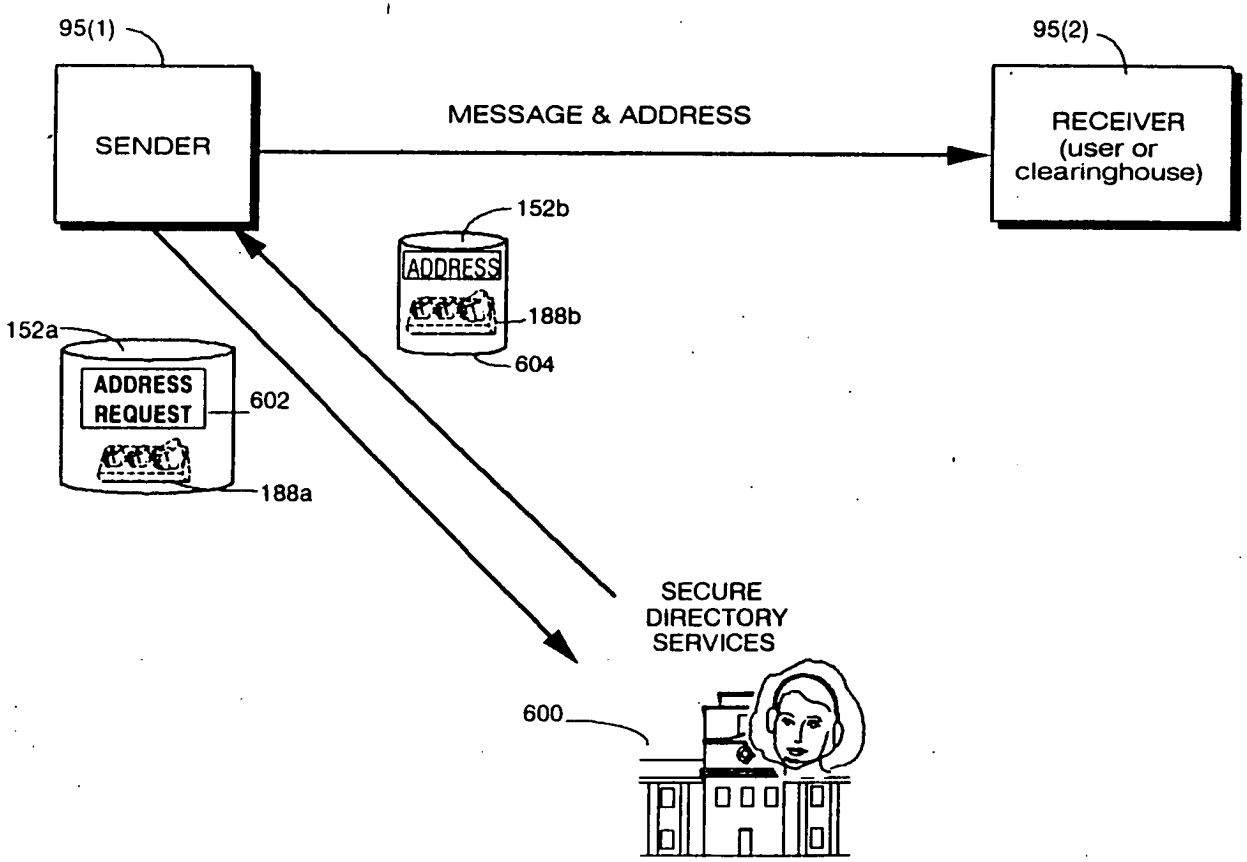


FIG. 53
Example Secure Directory Services

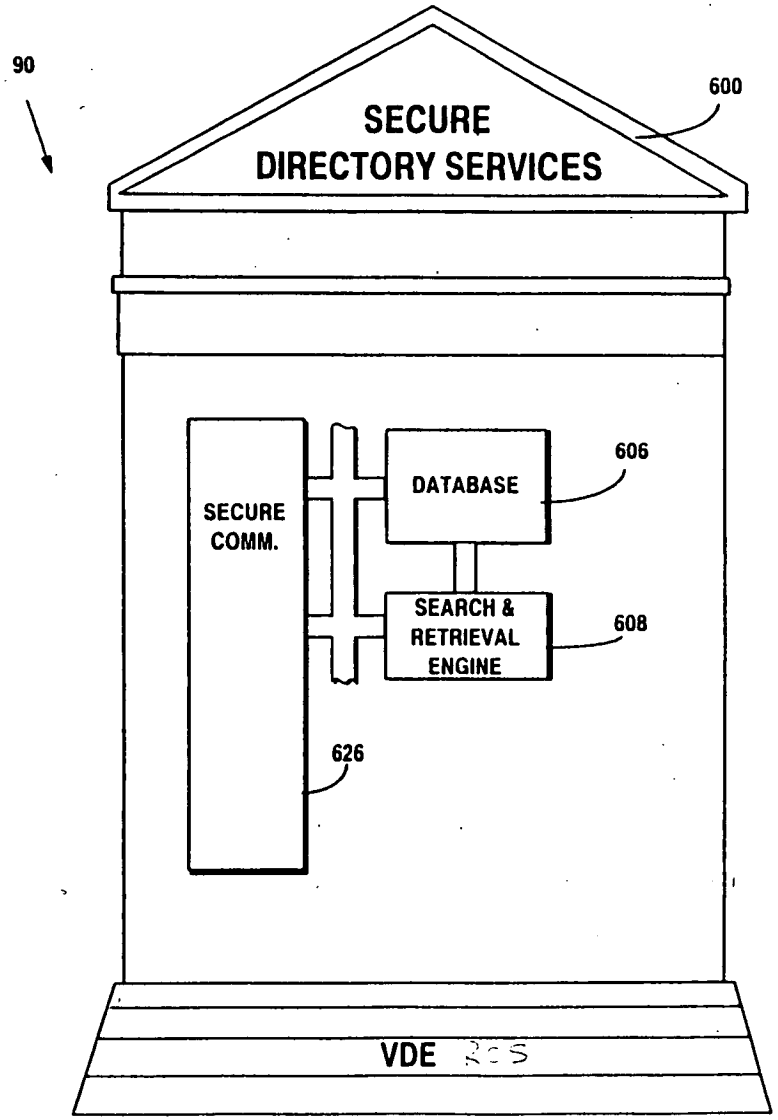


FIG. 56

Example Transaction Authority

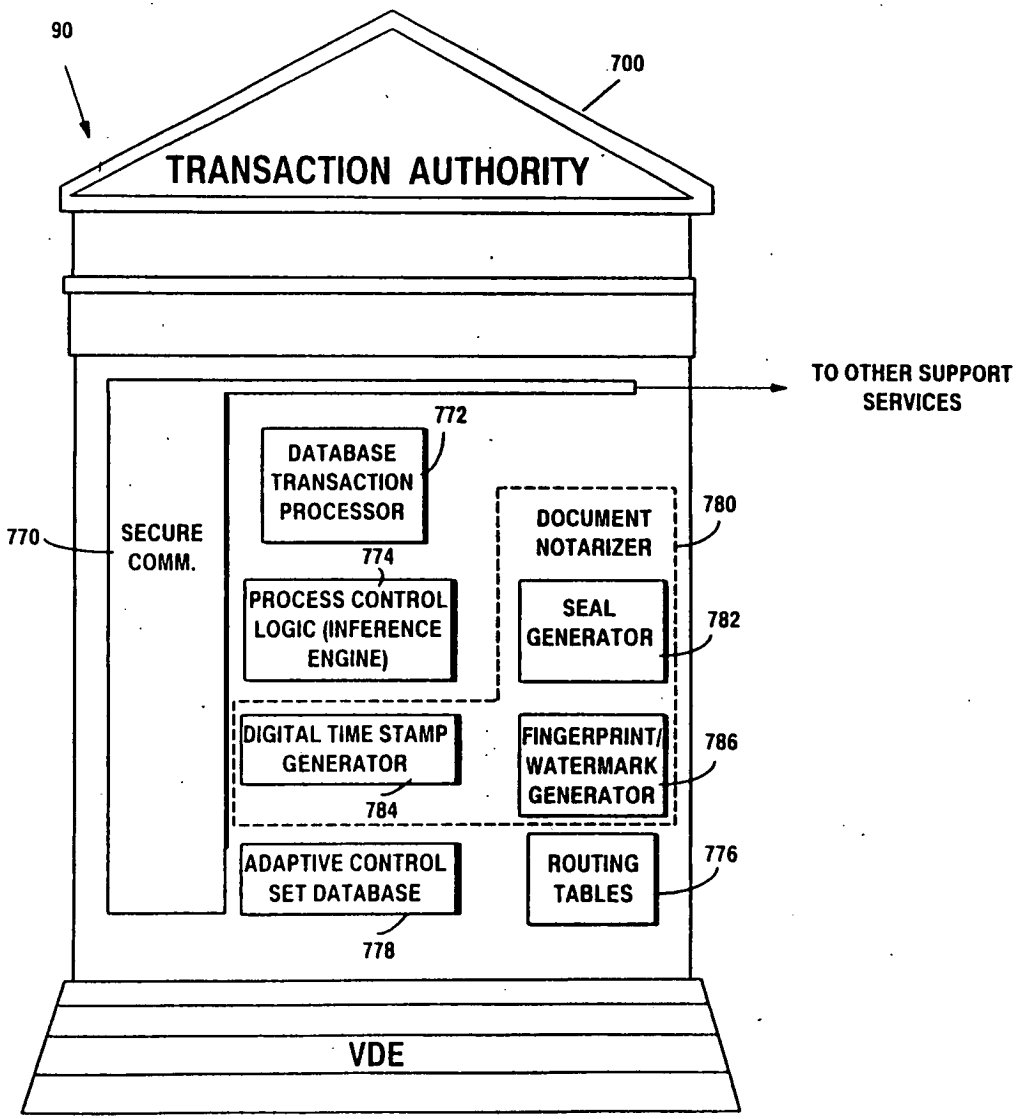


FIG. 55

Example Transaction Authority

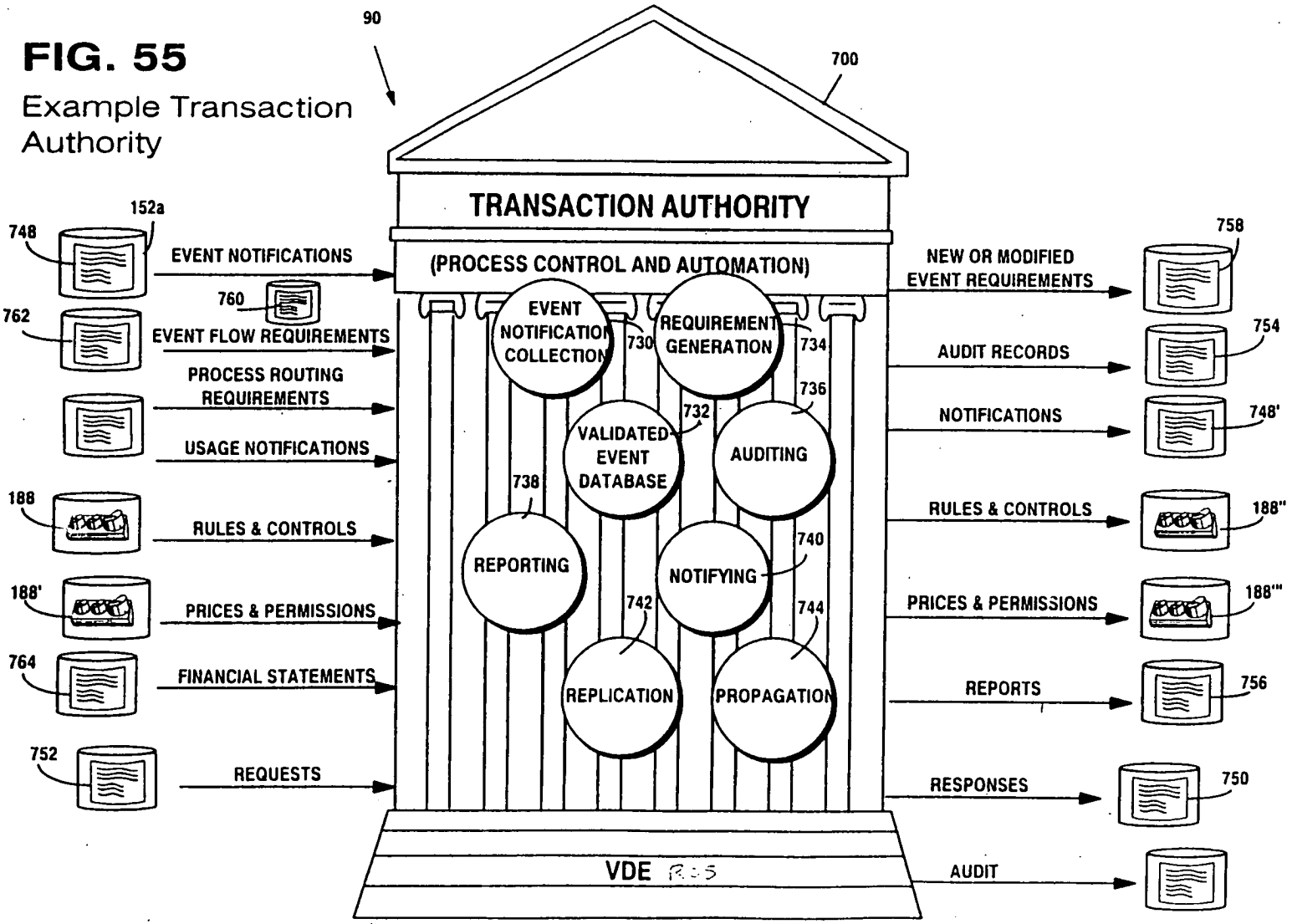
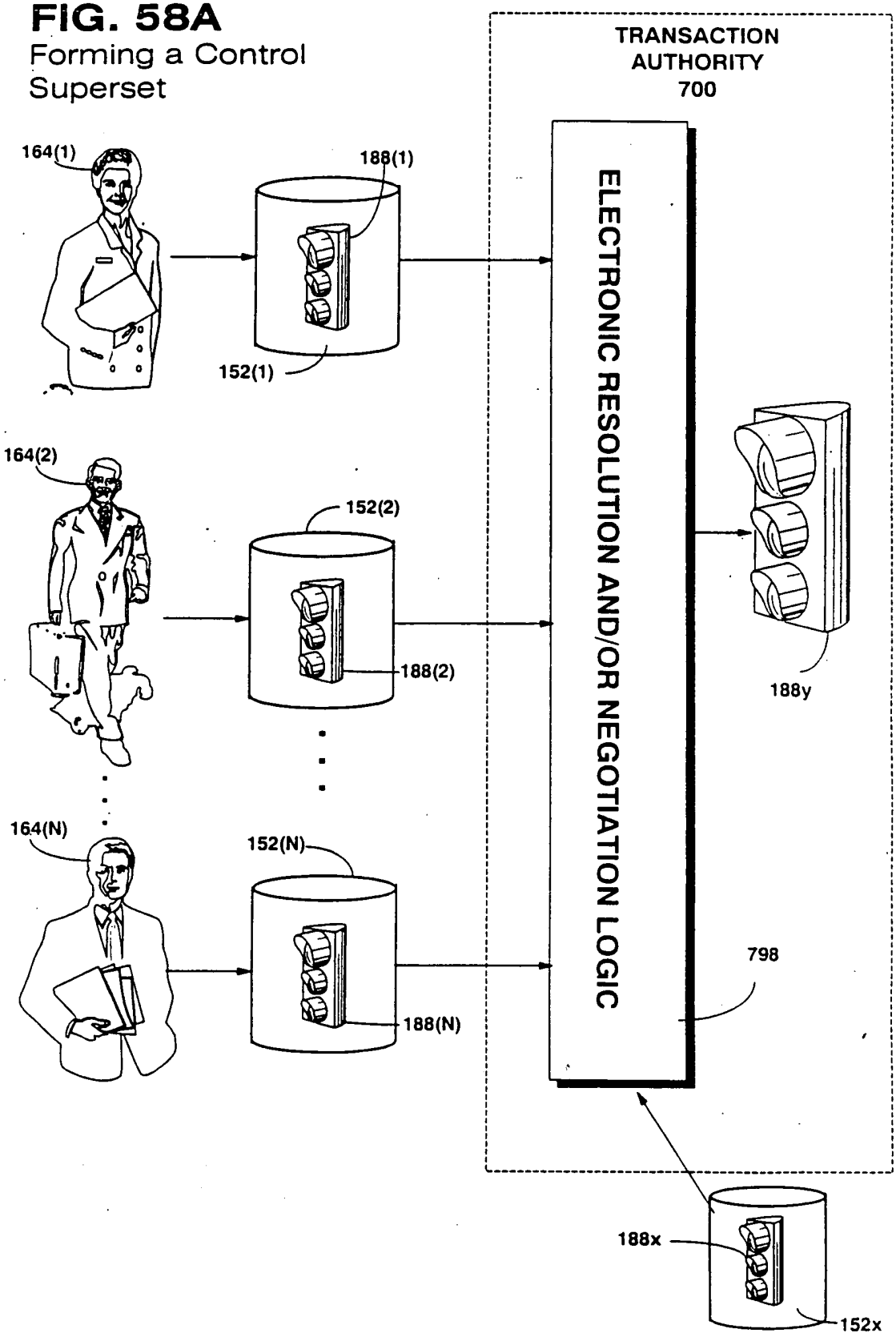


FIG. 58A

Forming a Control Superset



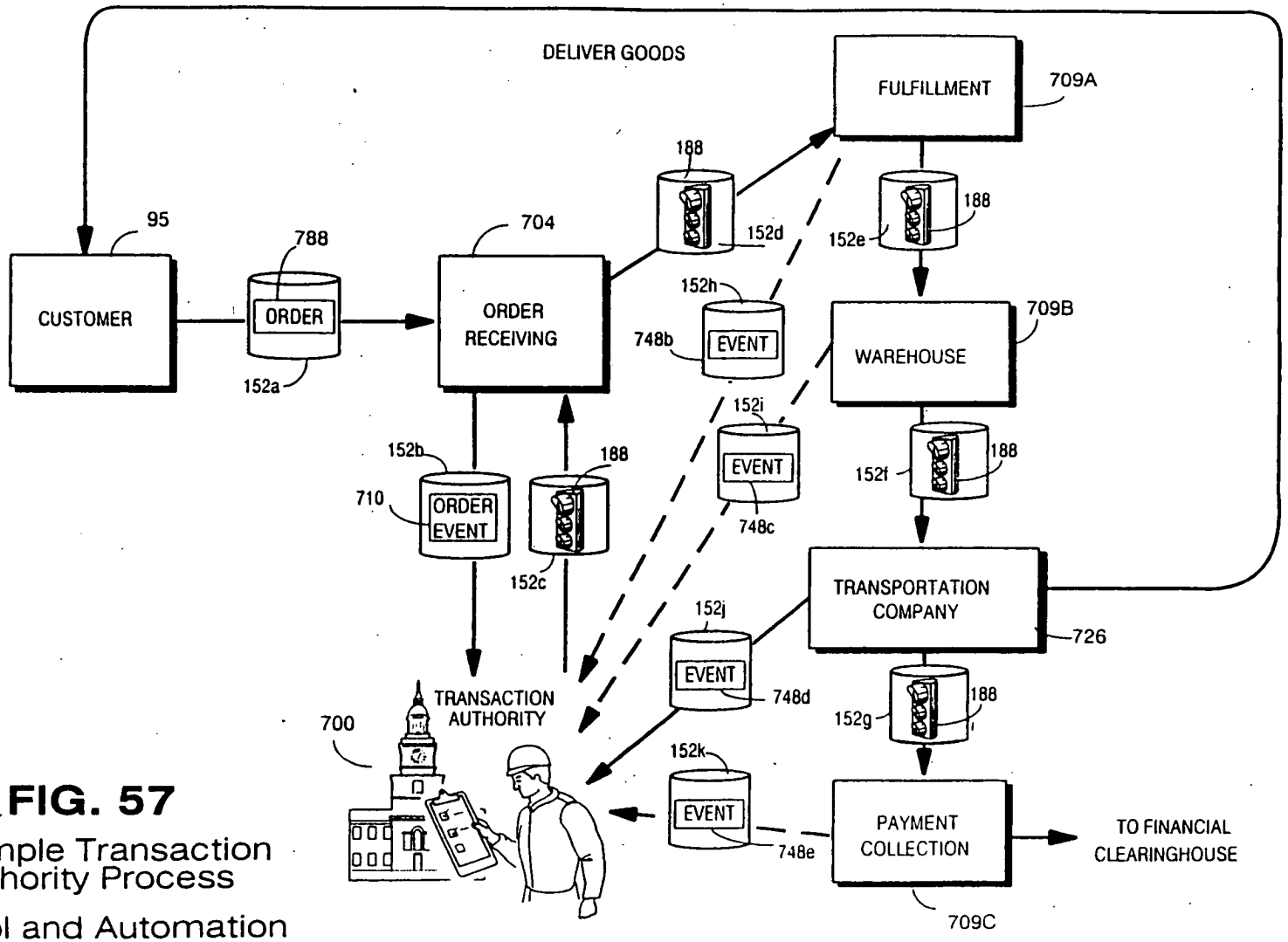


FIG. 57

Example Transaction Authority Process

Control and Automation

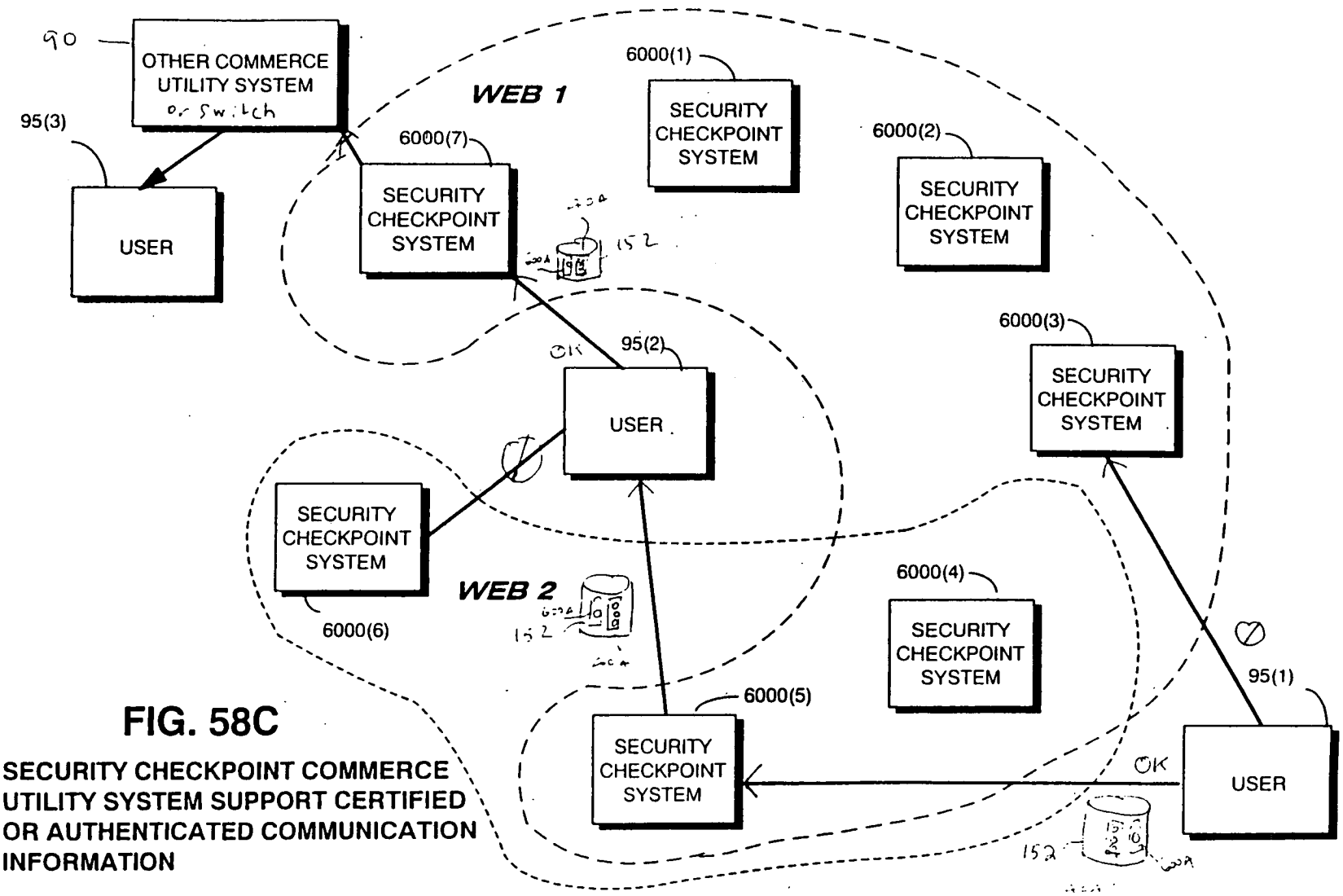
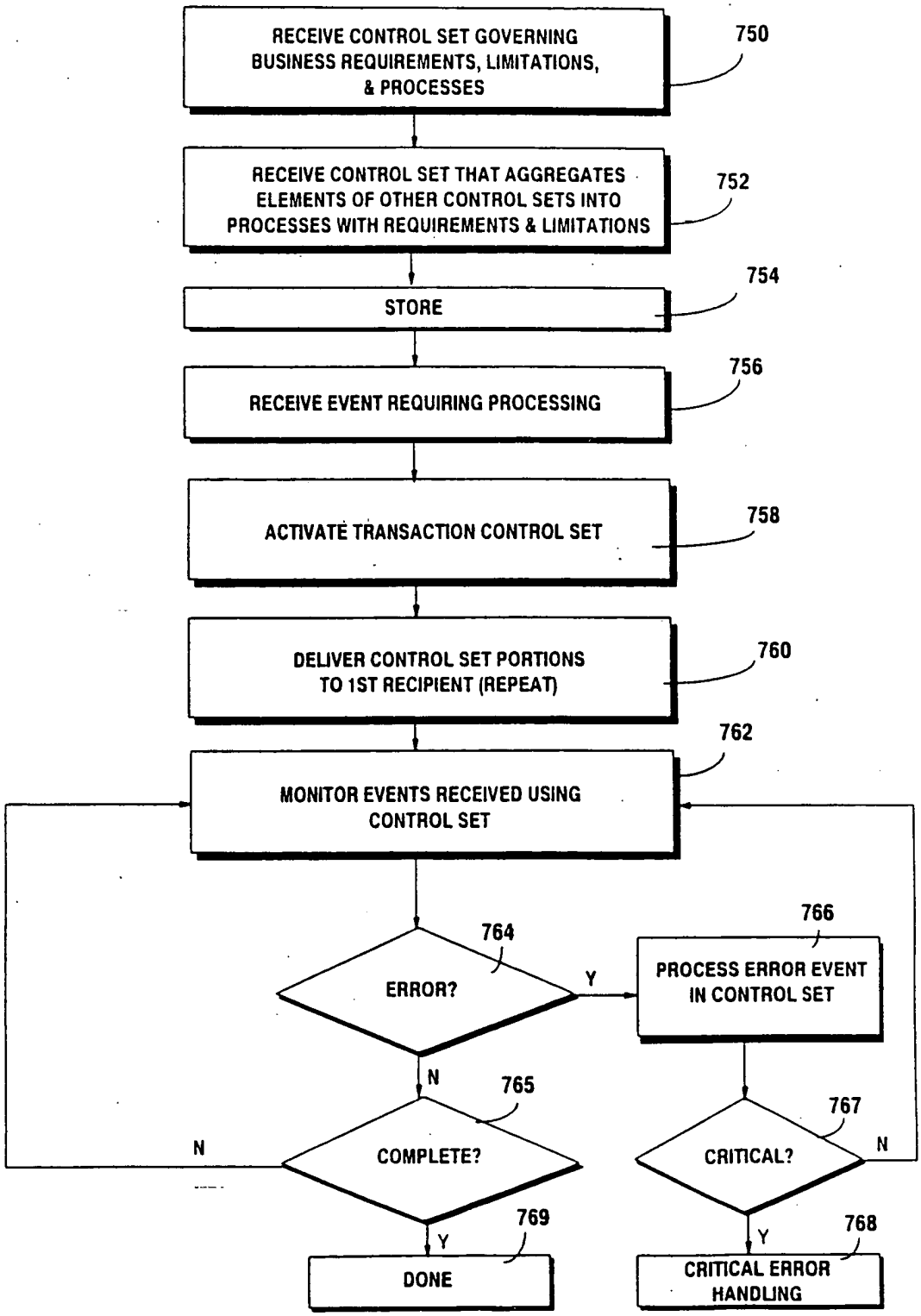


FIG. 58C

SECURITY CHECKPOINT COMMERCE UTILITY SYSTEM SUPPORT CERTIFIED OR AUTHENTICATED COMMUNICATION INFORMATION

FIG. 58B Transaction Authority Example Steps



SECTION 3 SHEET

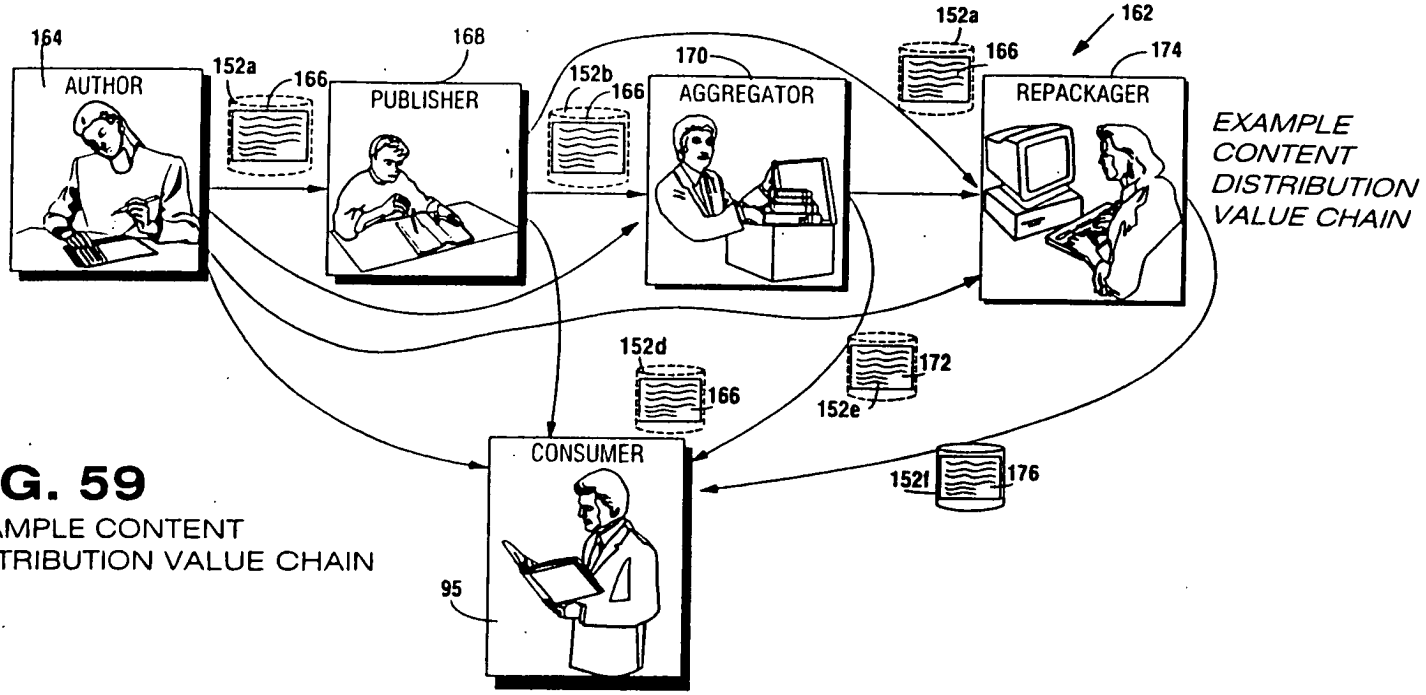


FIG. 59
EXAMPLE CONTENT
DISTRIBUTION VALUE CHAIN

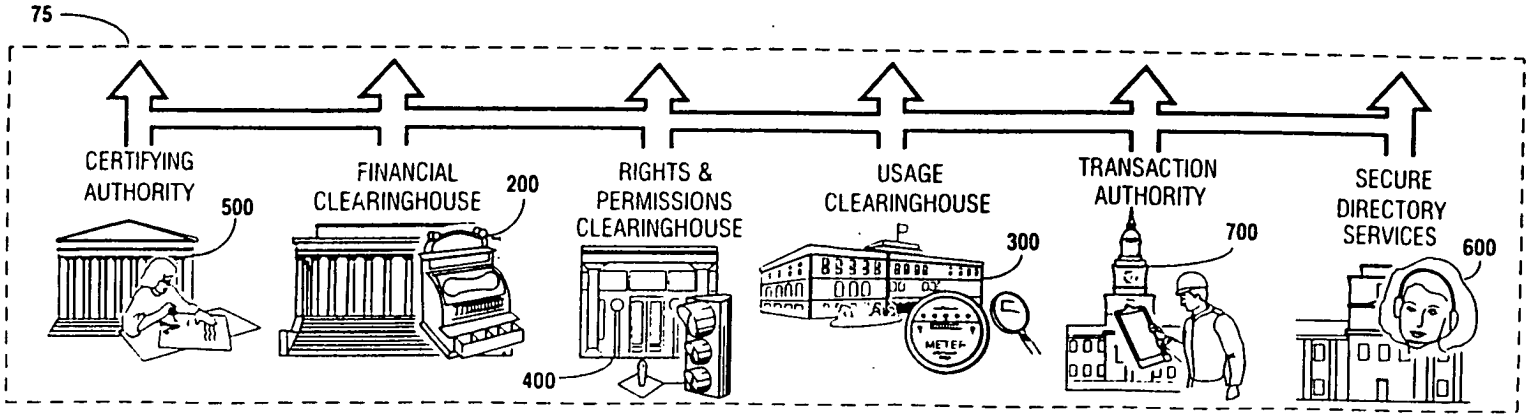
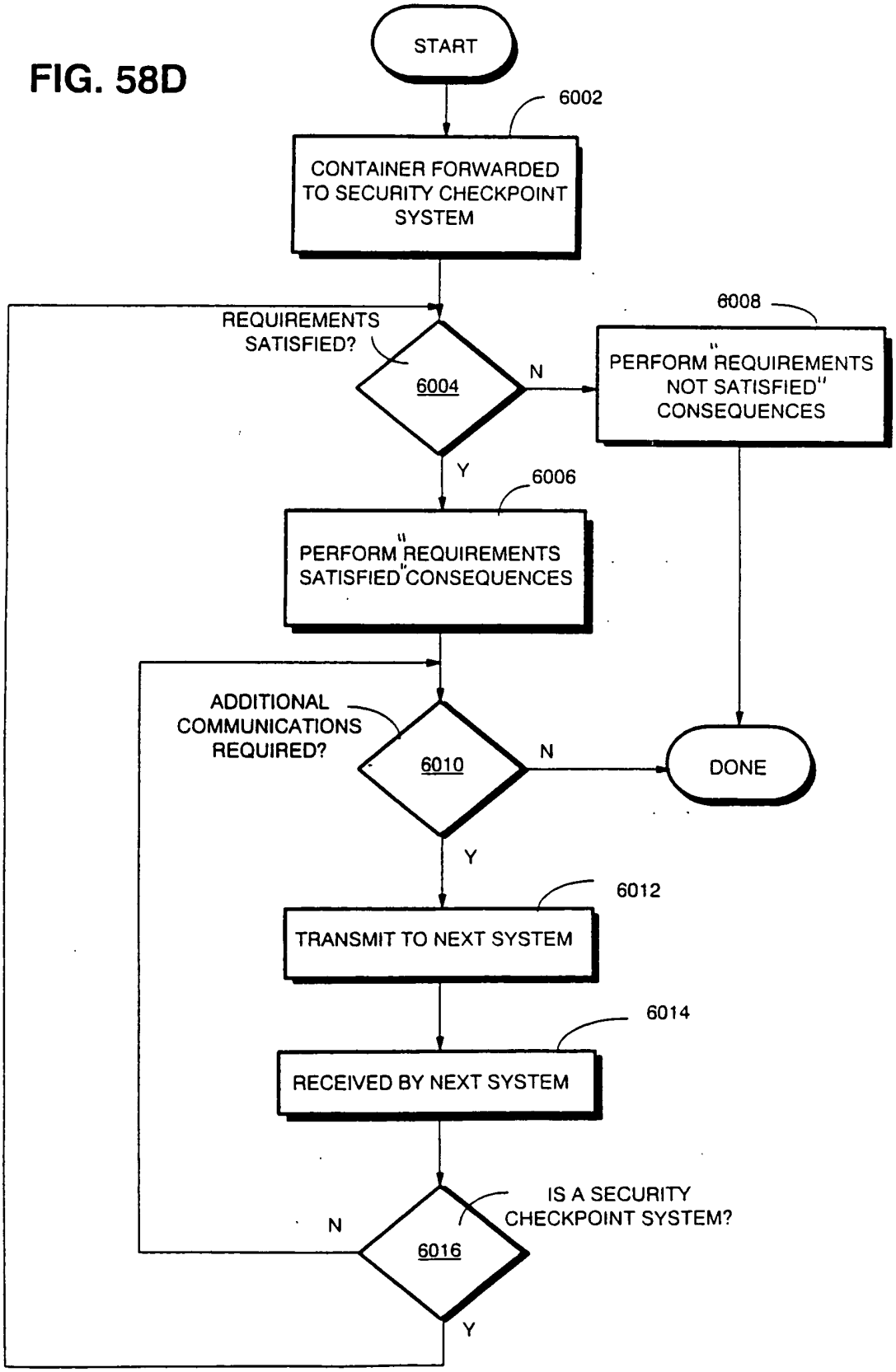


FIG. 58D


START
6002
CONTAINER FORWARDED TO SECURITY CHECKPOINT SYSTEM
REQUIREMENTS SATISFIED?
6004
N
6008
PERFORM "REQUIREMENTS NOT SATISFIED" CONSEQUENCES
Y
6006
PERFORM "REQUIREMENTS SATISFIED" CONSEQUENCES
ADDITIONAL COMMUNICATIONS REQUIRED?
6010
N
DONE
Y
6012
TRANSMIT TO NEXT SYSTEM
6014
RECEIVED BY NEXT SYSTEM
IS A SECURITY CHECKPOINT SYSTEM?
N
6016
Y

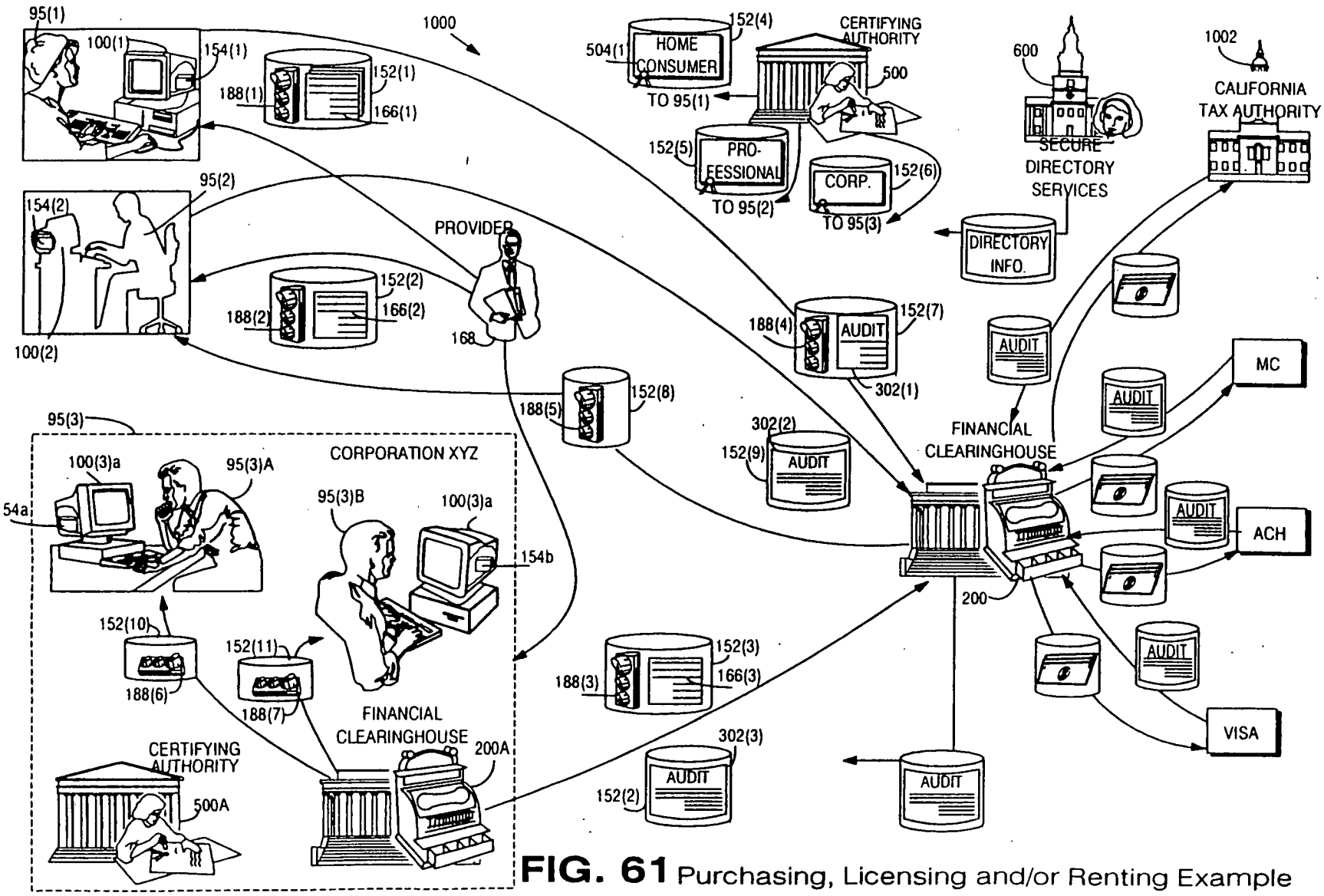


FIG. 61 Purchasing, Licensing and/or Renting Example

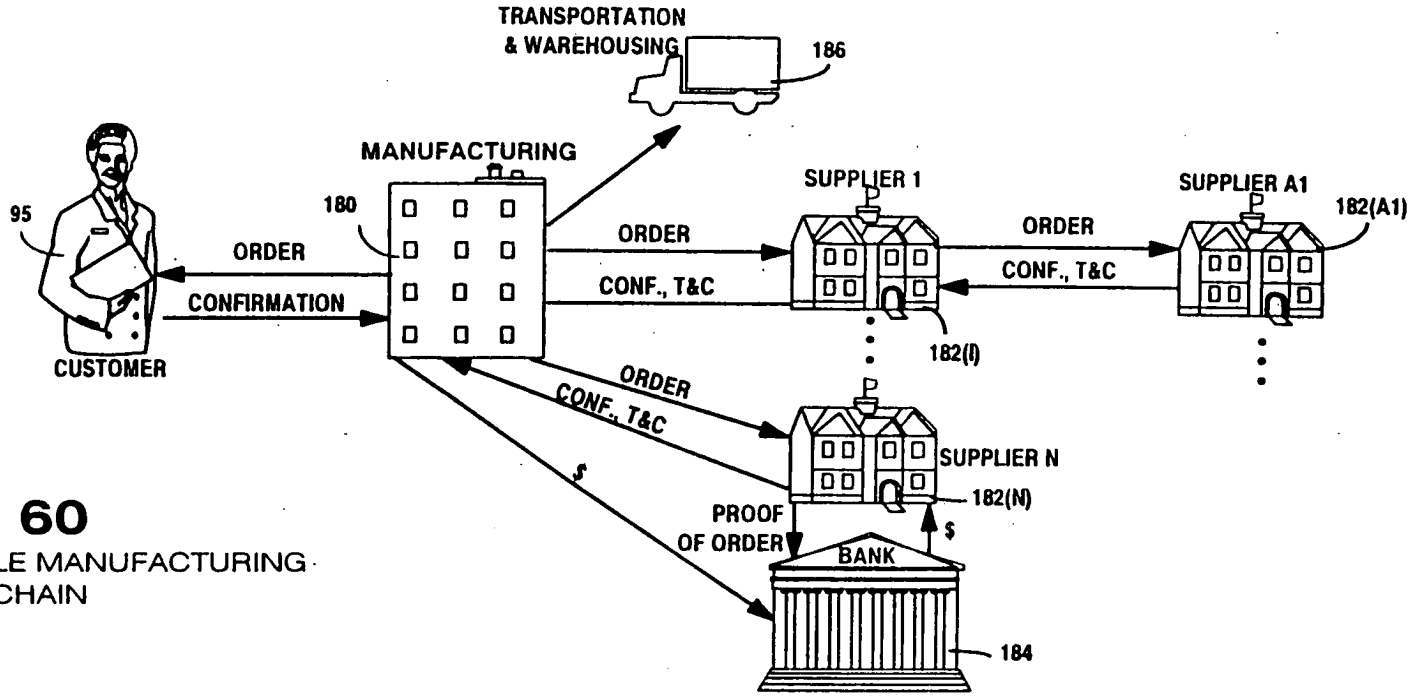
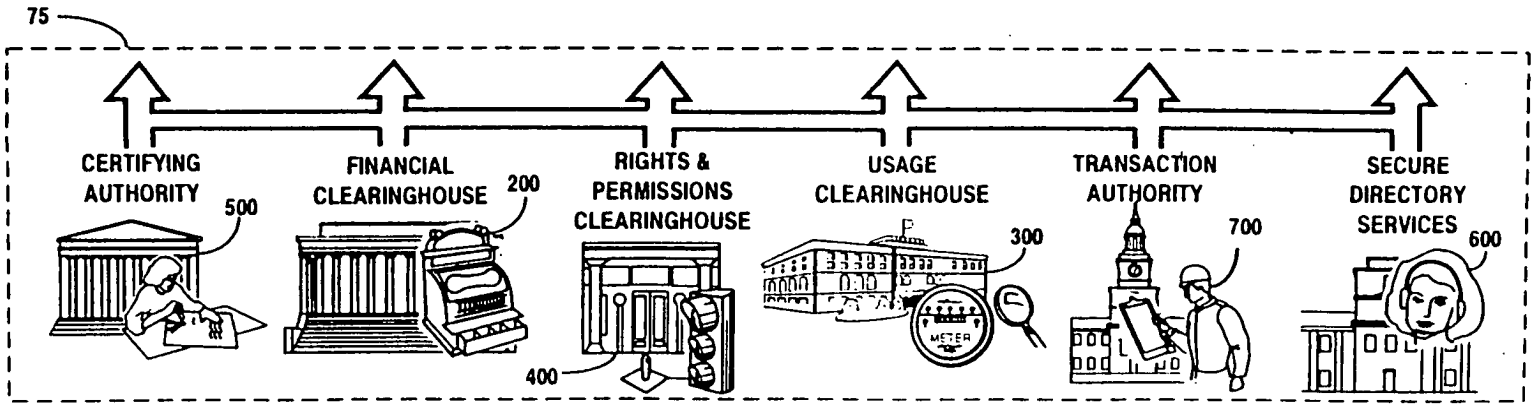


FIG. 60
EXAMPLE MANUFACTURING VALUE CHAIN



SECRET SOCIETY

FIG. 63 Example: Customer Securely Pays For Services

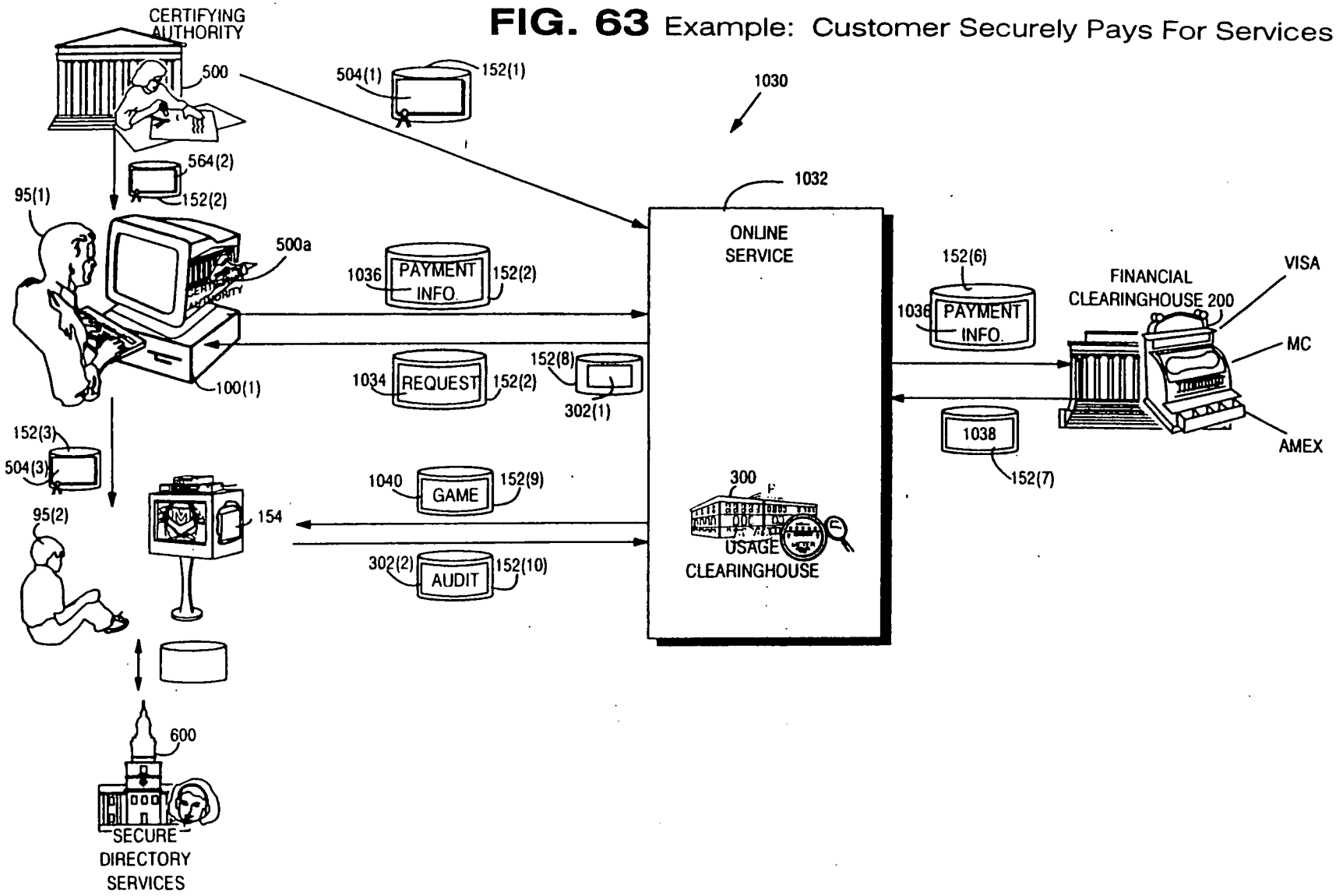
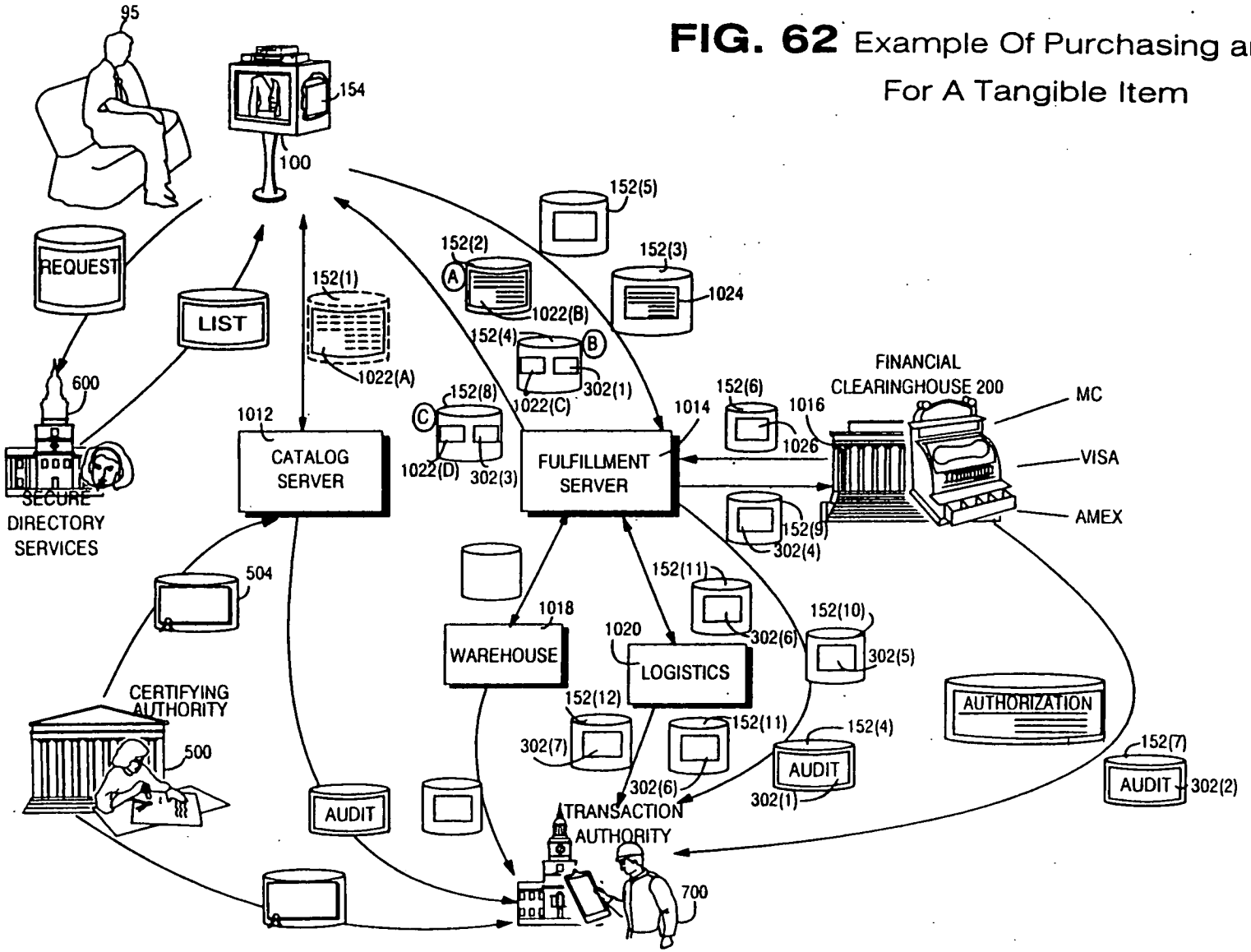


FIG. 62 Example Of Purchasing and Paying For A Tangible Item



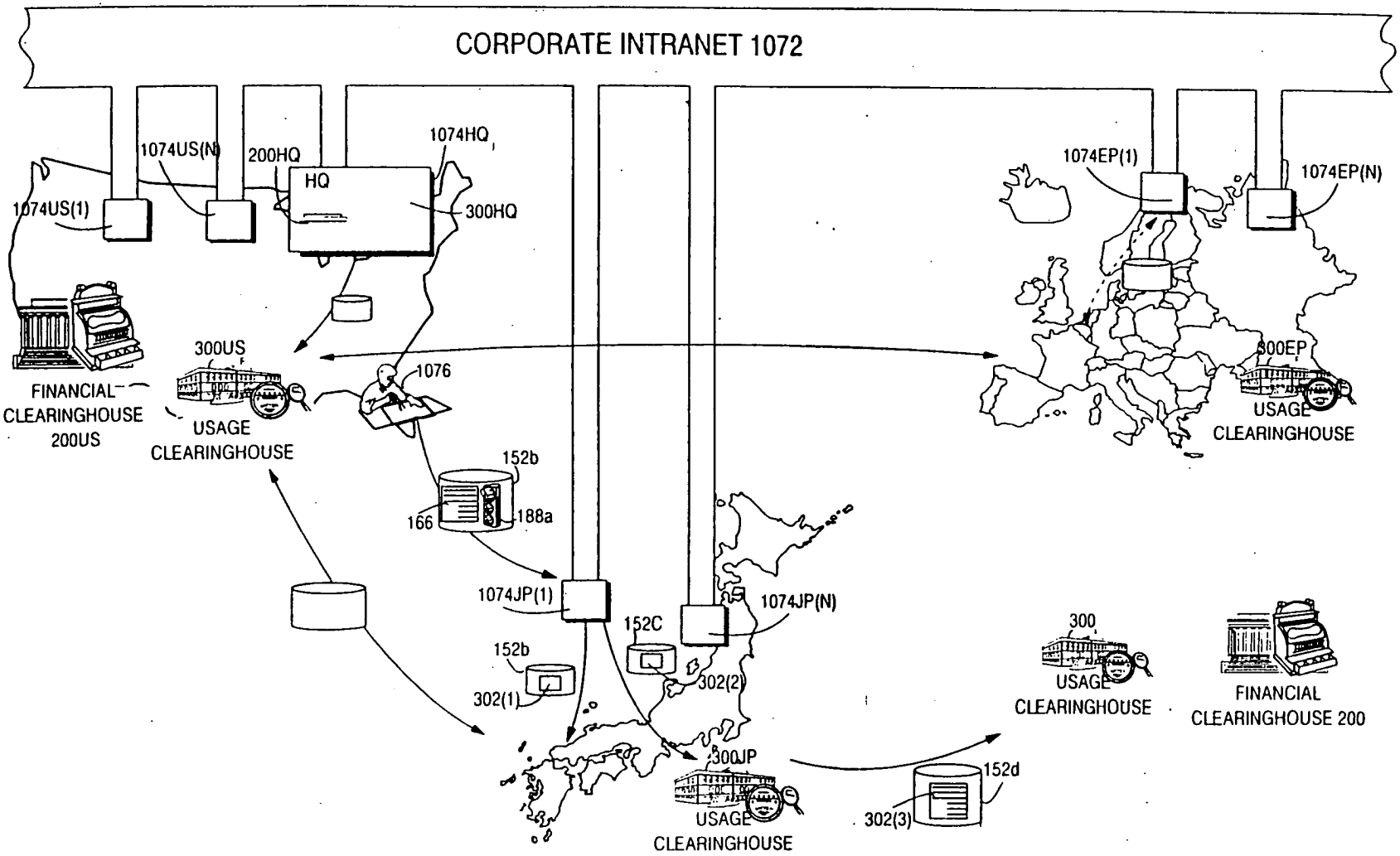
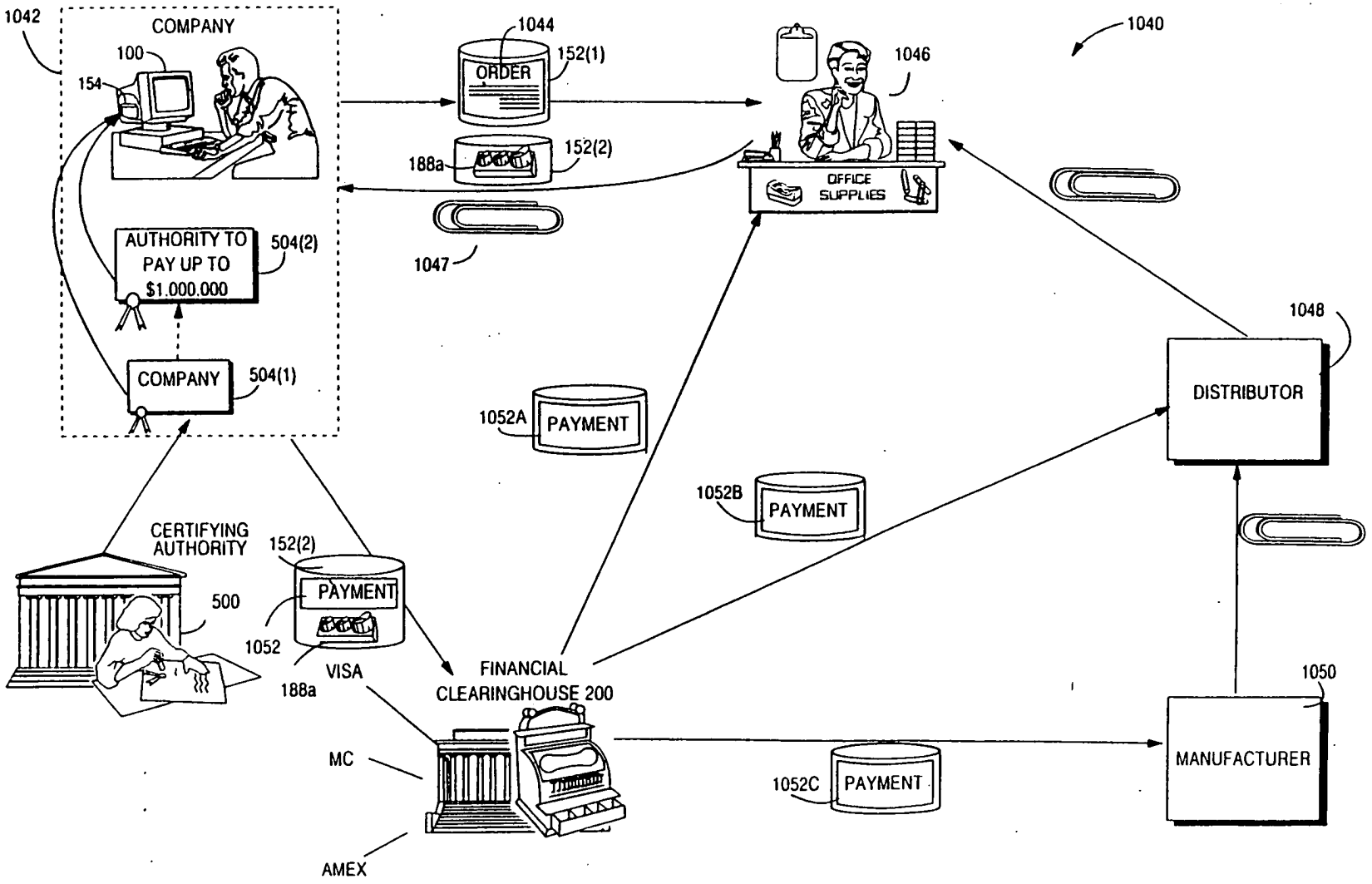


FIG. 65 Cooperation Among Commerce Utility Systems Internal and External To An Organization

SECTION 3 OF 3

FIG. 64 Example Value Chain Disaggregation For Purchase of Tangibles



ELECTRONIC SUBSTITUTE

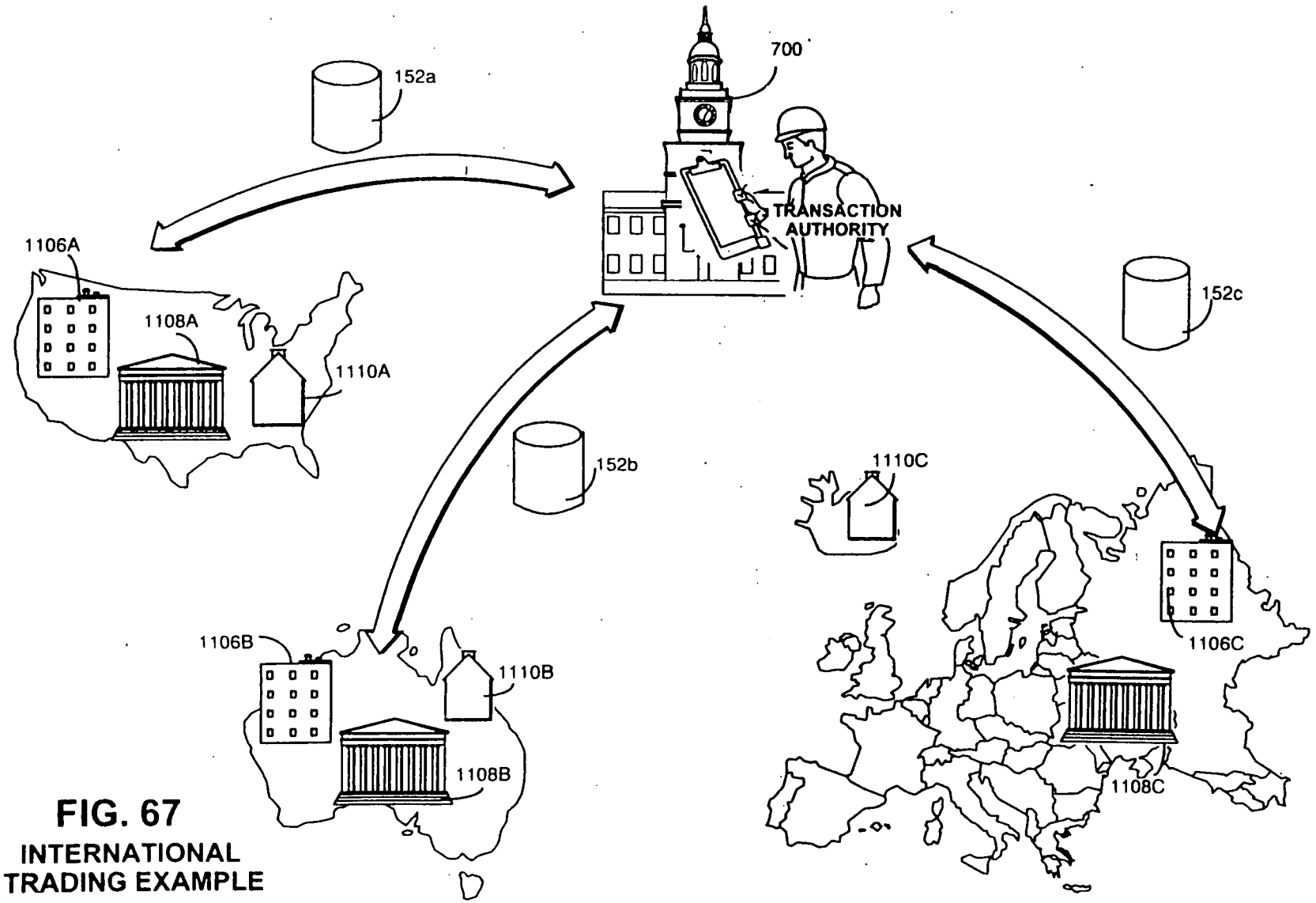


FIG. 67
INTERNATIONAL TRADING EXAMPLE

CLIENT-SERVER

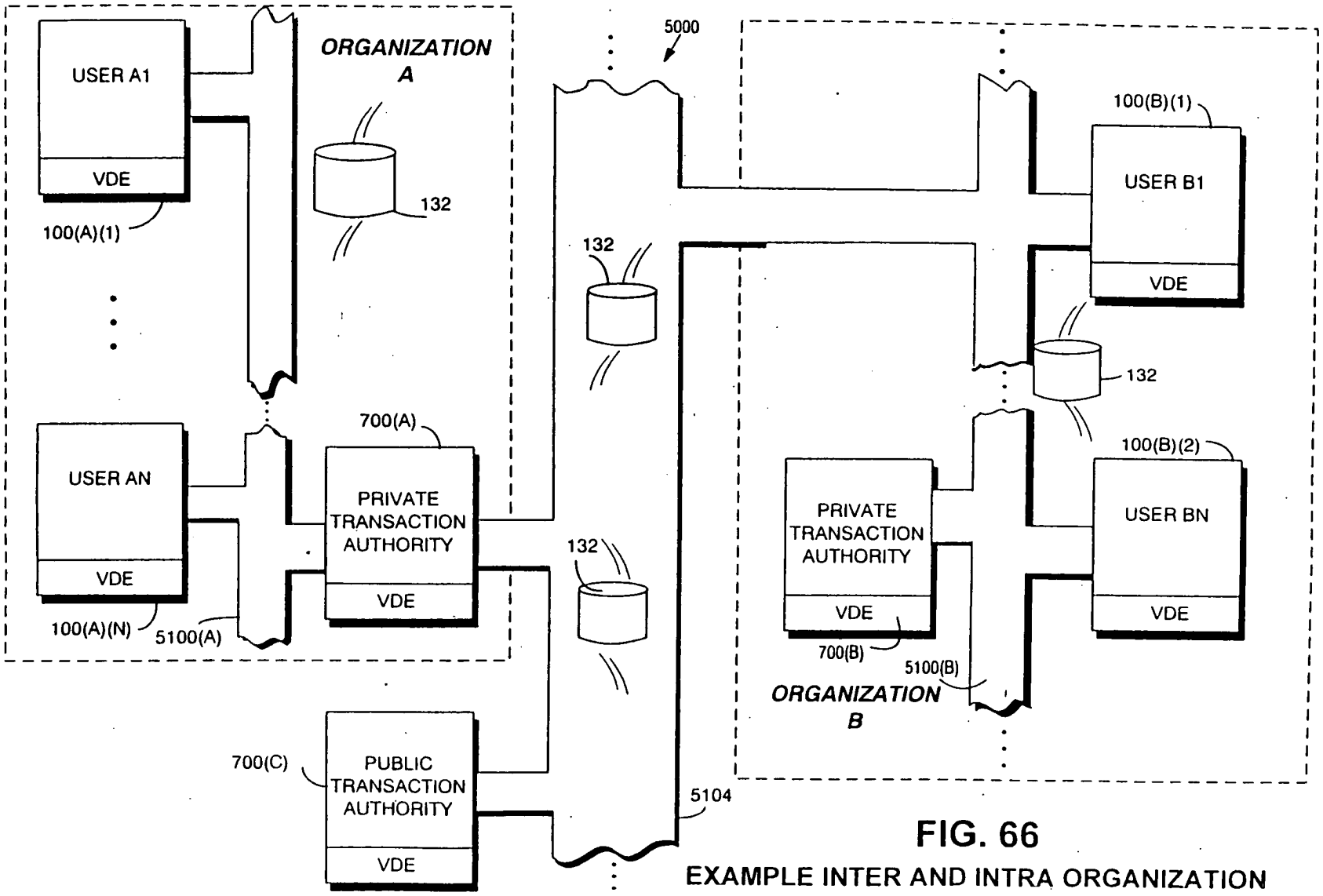


FIG. 66

EXAMPLE INTER AND INTRA ORGANIZATION